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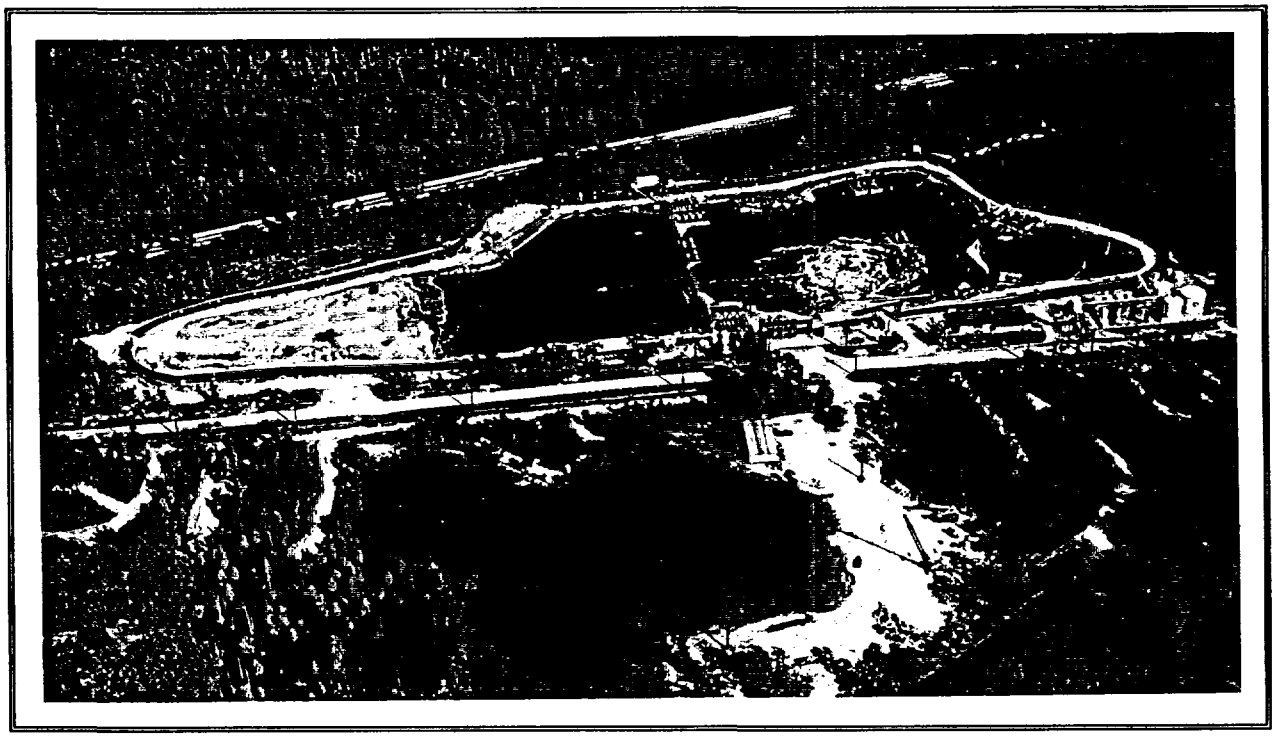
French Ltd. Project

FLTG, Inc.
Crosby, Texas

MONTHLY PROGRESS REPORT



Submitted to:

U.S. Environmental Protection Agency - Region 6
and
Texas Natural Resource Conservation Commission

August, 1994

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Appendix A - None

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Samples Dated August 15-September 6, 1994

Project I.D.	Date Received	Project I.D.	Date Rec
M03A0263		M01D0045	8/29/
M03A0264		M08C0006	8/29/
M03A0265		M08D0008	8/29/
M03A0266		S16B0027	8/29/
S12B0007		S16B0028	8/29/
S14B0002		S16C0005	8/29/
S16B0024	8/15/94	M03A0259	8/30/
S16B0025	8/17/94	M03A0260	9/01/
S16B0026	8/22/94	M03A0261	9/01/
M06C0018	8/25/94	S12C0025	9/01/
S16C0003	8/25/94	S16A0006	9/01/
S16C0004	8/25/94	M03A0262	9/06/
M03A0258	8/26/94		

1.0 INTRODUCTION

This report covers the activities of FLTG, Inc. and the French Limited Project for August, 1994. FLTG, Inc. manages the project for the French Limited Task Group of Potentially Responsible Parties.

During August, 1994, the project team focused on the following activities and issues:

- Health, Safety, and Quality.
- Safety awareness.
- Contractor safety.
- HAZOP of daily work assignments.
- Hot, humid weather and heat stress.
- Detecting and correcting work place hazards.
- Response to changing site conditions.
- Safe lifting procedures.
- Slipping, tripping, and falling hazards.
- Safe work practices in congested conditions.
- Working around moving equipment.
- Treatment of Cell D/F water to meet effluent specifications.
- Backfill Cell F.
- Maintain DO, OUR, HMB, and plate count in Cell F.

- Lagoon remediation completion report.
- Re-vegetation of Cell E area.
- Lagoon area closure plan.
- Operation and maintenance of the aquifer remediation system.
- In-situ aquifer bioremediation.
- INT zone remediation to the southwest.
- Potable water well sampling and analyses.
- Response to agency comments on DNAPL risk assessment and response options.
- Construction of INT-11 containment wall.
- Water treatment plant operation and maintenance.
- Management of carbon blending system to minimize carbon consumption.
- Operation of the data base management system.
- Wetlands restoration design.
- Wetlands restoration site permitting.
- This report includes:
- A summary of August activities, issues, and progress.
- Lagoon Demobilization activities, issues, and progress.
- Groundwater and Subsoil Remediation activities, issues, and progress.
- Groundwater Treatment Plant activities, issues, and progress.

- Ambient Air Management status.
- QA/QC status and data.
- Site management activities, issues, and progress.
- Wetlands restoration status.

2.0 SUMMARY

2.1 Summary of Activities and Progress

2.1.1 Health and Safety

There were no personal injury incidents.

All site workers earned the August safety bonus.

Conducted safety meetings and job inspections at the start of each shift; reviewed safety issues before starting all jobs.

All employees and contractors attended daily safety meetings.

Conducted daily mini-HAZOP of all specific jobs.

Supervision made 249 specific on-the-job safety contacts.

Emphasized slips, trips, and falls in congested work areas.

Reviewed the causes, symptoms, and treatment of heat stress each day.

Inspected and certified all fire extinguishers.

Inspected all contractor equipment before on-site use.

Inspected all vendor delivery trucks before site entry.

Emphasized the hazards and precautions associated with working around moving equipment.

Conducted 26 specific health and safety inspections.

Logged all safety issues each shift; less than 24-hour response to all safety issues.

Continued lottery ticket daily safety awareness incentive program; all regular site employees and regular contractors receive a Texas lottery ticket each day; tickets can be "lost" due to safety violations; employee response continues to be excellent.

Conducted personnel exposure monitoring, and all results were within acceptable levels. The most recent results are in Table 2-1.

Revised "hot work" permit procedure in response to a flash fire incident.

2.1.2 Quality/QAQC/Data Base Management

The total quality process was used. The status of the goals is shown on Table 2-2.

Raw data is being validated as per the plan.

The data base management system operated full on-line with no major problems or delays.

There were no data or reports rejected due to errors.

American Analytical continued to provide data on time.

There were no inconsistent Cu and Ag analyses.

The follow-up audit of AATS confirmed that all recommendations had been satisfactorily addressed.

2.1.3 Lagoon Remediation

The dredges, pump barges, and work boat were removed from Cell F, decontaminated, and stored in the south laydown area.

Maintained a high level of biological activity in Cell D/F; OUR, HMB, and plate counts were high. Added O_2 to Cell F using a downdraft aerator. Bottom profiles indicate low levels of soft biomass.

Operated an aerator in Cell D to degrade biomass.

The Lefco unit treated and discharged about 3.4 million gallons of water; the Lefco units operated with only minor problems.

About 12,280 cubic yards of backfill were placed in Cell F.

Testing two types of non-riparian phreatophytes to remove pore water from Cell E.

Tested floodwall gate closure.

2.1.4 Ambient Air Management

Ambient air quality was manually checked daily with portable analyzers, and no response action was required.

Time-integrated samples were collected in three work areas, and the results indicated no exposure; the data is shown in Table 2-1.

2.1.5 Aquifer Remediation

Monitored status of DNAPL plumes.

DNAPL flow to S1-12, S1-13 and S1-16 continues to be erratic.

DNAPL flow in S1-16 has remained low.

Some DNAPL was noted on the S1-63 pump; the water sample from S1-63 did not show any DNAPL.

Operated direct drive pump on S1-16 well.

Completed responses to EPA/TNRCC/CH2M Hill comments on DNAPL response options study.

Completed construction of INT-11 containment wall.

Continued routine S1 and INT oxygen and nutrient injection.

Increased INT zone injection rates by 40%.

Developed a work plan to install an additional injection water supply well on the west end of the site.

Continued to evaluate ways to increase INT production rates.

Developing work plan to install 6 to 8 more INT pumping wells. The screen interval will be pressure fractured to increase production.

Operated vacuum-enhanced pumping systems for INT wells.

Increased INT injection pressure in the southwest area.

Issued weekly well status and performance reports.

Inspected and adjusted all wells each day.

Continued daily maintenance of recovery and injection wells.

Completed monthly well measurements and sampling; TOC results show a steady decrease in concentration.

Maintained O_2 content of injection water at about 40-45 ppm.

Maintained phreatofilic trees in Cell E area.

Continue pulse pumping in sections of the S1 zone South of Gulf Pump Road; the results continue to look positive; permanently shut off three more S1 production wells that meet the clean-up requirements.

Stopped a pulse pumping program in the INT zone to increase flushing rates in the critical sections.

Analytical results continue to indicate low levels of chlorinated organics in one domestic potable well (RD-2); bottled water is being provided to the affected household. The other domestic wells in the area were clean. RD-2 contained high levels of fecal coliforms due to a damaged surface casing and due to close proximity of an adjacent leach field.

Developed a work plan to replace RD-2 with a deep potable water well, screened below the Beaumont clay.

2.1.6 Groundwater Treatment

The carbon blending system operated with no problems; the amount of effluent water requiring carbon treatment decreased as the treatment plant influent water TOC decreased.

The water treatment plant operated 98% of the time; the downtime was due to sand filter cleaning.

The water treatment plant effluent data is shown in Table 2-3.

TOC input to T-101 continued to decrease as the flows from the wells inside the floodwall decreased and as the TOC decreased from most wells.

The process operators collected all the process water and ground water samples.

2.1.7 Wetlands Restoration

Completed the final restoration design in response to agency comments.

Continued plant species identification and sourcing.

Executed site access agreement between FLTG and Baytown.

Corp. of Engineers received minor 404 permit comments from the Sierra Club, the Galveston Bay Foundation, and FEMA; FLTG responded to all the comments.

Issued the RFP for the project civil work; conducted a site review with six interested bidders.

2.1.8 Site Management and Issues

Used the on-site laboratory to process all the operational control samples.

Reviewed lagoon and aquifer progress and issues in detail with EPA and TNRCC on a regular basis.

Validated all analytical data as per the QAQC plan.

Continued equipment salvage and sales; several site visits were made by interested parties.

Reviewed project status and issues each day to ensure focus on critical issues - safety, quality and cost.

Issued weekly cost, schedule, and maintenance reports.

Reviewed progress on issues and action plans each week.

Reduced technical support MH's.

Reduced maintenance and operation manpower.

Tested the flood gate on one occasion.

TABLE 2-1

Ambient Air Management
Time Integrated Exposure Data

Compound	PEL 8 hour PPM	M01D0045 10-Aug-94 GWT Operator		M01D0045 10-Aug-94 Rochem Oper.		M01D0045 10-Aug-94 Well Operator	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.001	0.001	0.000	0.000	0.000	0.000
Bromomethane	5	0.000	0.000	0.000	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.000	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.001	0.000	0.013	0.006	0.000	0.000
Acetone	750	0.004	0.027	0.005	0.039	0.002	0.014
Carbon disulfide	10	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.001	0.001	0.000	0.000	0.000	0.000
trans-1,2-Dichloroethe	200	0.000	0.000	0.000	0.000	0.000	0.000
Chloroform	10	0.100	0.010	0.000	0.000	0.045	0.005
1,2-Dichloroethane	10	0.014	0.001	0.000	0.000	0.000	0.000
2-Butanone	200	0.001	0.001	0.026	0.052	0.000	0.000
1,1,1-Trichloroethane	350	0.000	0.000	0.001	0.003	0.000	0.001
Carbon Tetrachloride	5	0.008	0.000	0.005	0.000	0.000	0.000
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropen	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.001	0.001	0.000	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.047	0.000	0.581	0.006	0.196	0.002
trans-1,3-Dichloroprop	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.001	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.002	0.001	0.001	0.001	0.001	0.000
1,1,2,2-Tetrachloroet	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.000	0.000	0.005	0.005	0.001	0.001
Chlorobenzene	10	0.000	0.000	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.001	0.001	0.000	0.000
Styrene	50	0.000	0.000	0.001	0.001	0.000	0.000
Xylene (total)	100	0.000	0.000	0.001	0.001	0.000	0.000
Hexane			0.003		0.007		0.003

TABLE 2-2

Project Quality

Status as of 8/30/94		Goals	
Yes	1)	No OSHA recordable injuries.	
Attention	2)	100% compliance with all safety rules and procedures.	
Yes	3)	No citations for violations of applicable, relevant and appropriate regulations.	
Yes	4)	100% attendance (including subcontractors) at daily safety meetings.	
Attention	5)	Less than 24-hour response time on health and safety issues.	
Yes	6)	100% sign-in and security clearance.	
Yes	7)	No invalidation of reported data due to QA/QC issues.	
	8)	Spend less than:	MH/Month
Yes		• Direct hire	3,000
Yes		• FLTG management (5 people)	700
Yes/Attention		• Technical support (3 people)	600
Yes		• Maintenance support	120
Yes	9)	Pump at least 140 gpm; inject at least 100 gpm.	
Yes	10)	Remediate shallow alluvial zone aquifer in 60 months.	
Yes	11)	Hold analytical cost to less than $20,000 per month (1994 only).	
Yes	12)	No unscheduled overtime (per day or per week).	
Yes	13)	No agency contacts which require 3rd party resolution.	
Yes	14)	Documented training of site personnel for all work assignments.	
Yes	15)	Weekly audit of actual performance versus goals.	

TABLE 2-3
Treated Water Results Summary

Collected	Set No.	pH (6-9)		TSS 5 PPM		TOC 55 PPM		O&G 15 PPM		Benzene 150 PPB		Chlor HC's 500 PPB		Total PCBs 0.65 PPB		Napthalene 300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
5-May-94	M03A0233	7.77		5.		55.		.5		2.5		518.		.16		5.	
9-May-94	M03A0234	7.69		6.		51.6		2.5		2.5		31.		.16		5.	
12-May-94	M03A0235	7.87		18.		49.1		2.5		2.5		800.		.16		5.	
16-May-94	M03A0236	7.61		4.		29.1		2.5		2.5		350.		.16		5.	
19-May-94	M03A0237	7.49		1.		44.3		2.5		2.5		421.		.16		5.	
23-May-94	M03A0238	7.58		2.		42.3		2.5		6.		497.		.16		5.	
27-May-94	M03A0239	7.3		4.		14.4		2.5		2.5		52.		.16		5.	
30-May-94	M03A0240	7.54		8.		30.9		2.5		2.5		290.		.16		5.	
2-Jun-94	M03A0241	7.72		1.		14.6		2.5		2.5		78.		.16		5.	
6-Jun-94	M03A0242	7.6	7.6	1.	5.	26.5	33.64	2.5	2.5	2.5	2.89	474.	333	.16	.16	5.	5.
9-Jun-94	M03A0243	7.48	7.58	1.	4.44	39.1	32.26	2.5	2.5	6.	3.28	520.	387	.16	.16	5.	5.
13-Jun-94	M03A0244	7.64	7.55	7.	3.22	40.1	31.26	2.5	2.5	6.	3.67	602.	365	.16	.16	5.	5.
16-Jun-94	M03A0245	7.54	7.54	6.	3.44	20.9	30.34	2.5	2.5	2.5	3.67	440.	375	.16	.16	5.	5.
20-Jun-94	M03A0246	7.44	7.54	1.	3.44	36.7	29.5	2.5	2.5	6.	4.06	287.	360	.16	.16	5.	5.
23-Jun-94	M03A0247	7.38	7.52	3.	3.56	37.9	29.01	2.5	2.5	6.	4.06	301.	338	.16	.16	5.	5.
27-Jun-94	M03A0248	7.36	7.52	5.	3.67	43.6	32.26	2.5	2.5	6.	4.44	401.	377	.16	.16	5.	5.
30-Jun-94	M03A0249	7.43	7.51	4.	3.22	29.	32.04	2.5	2.5	2.5	4.44	108.	357	.16	.16	5.	5.
4-Jul-94	M03A0250	7.79	7.52	9.	4.11	21.4	32.8	2.5	2.5	6.	4.83	201.	370	.16	.16	5.	5.
7-Jul-94	M03A0251	7.47	7.5	9.	5.	30.1	33.2	2.5	2.5	2.5	4.83	181.	338	.16	.16	5.	5.
11-Jul-94	M03A0252	7.44	7.5	1.	5.	26.8	31.83	2.5	2.5	2.5	4.44	236.	306	.16	.16	5.	5.
14-Jul-94	M03A0253	7.28	7.46	1.	4.33	43.3	32.19	2.5	2.5	6.	4.44	223.	264	.16	.16	5.	5.
18-Jul-94	M03A0254	7.24	7.43	3.	4.	31.9	33.41	2.5	2.5	6.	4.83	348.	254	.16	.16	5.	5.
21-Jul-94	M03A0255	7.27	7.41	1.	4.	43.6	34.18	2.5	2.5	6.	4.83	228.	247	.16	.16	5.	5.
25-Jul-94	M03A0256	7.27	7.39	7.	4.44	38.2	34.21	2.5	2.5	2.5	4.44	204.	237	.16	.16	5.	5.
28-Jul-94	M03A0257	7.31	7.39	4.	4.33	32.5	32.98	2.5	2.5	2.5	4.06	206.	215	.16	.16	5.	5.
1-Aug-94	M03A0258	7.36	7.38	8.	4.78	33.9	33.52	2.5	2.5	6.	4.44	313.	238	.16	.16	5.	5.
4-Aug-94	M03A0259	7.3	7.33	2.	4.	33.6	34.88	2.5	2.5	2.5	4.06	203.	238	.16	.16	5.	5.
8-Aug-94	M03A0260	7.25	7.3	3.	3.33	65.6	38.82	2.5	2.5	2.5	4.06	145.	234	.16	.16	5.	5.
11-Aug-94	M03A0261	7.16	7.27	2.	3.44	81.	44.84	2.5	2.5	2.5	4.06	292.	240	.16	.16	5.	5.
15-Aug-94	M03A0262	7.13	7.25	1.	3.44	76.3	48.51	2.5	2.5	6.	4.06	342.	253	.16	.16	5.	5.
18-Aug-94	M03A0263	7.25	7.26	1.	3.22	26.1	47.87	2.5	2.5	2.5	3.67	104.	226	.16	.16	5.	5.
22-Aug-94	M03A0264	7.33	7.26	1.	3.22	15.	44.69	2.5	2.5	2.5	3.28	242.	227.89	.16	.16	5.	5.
25-Aug-94	M03A0265	7.46	7.28	2.	2.67	34.7	44.3	2.5	2.5	2.5	3.28	102.	216.56	.16	.16	5.	5.
29-Aug-94	M03A0266	7.37	7.29	10.	3.33	23.5	43.3	2.5	2.5	2.5	3.28	56.	189.89	.16	.16	5.	5.
1-Sep-94	M03A0267			1.		23.7		2.5						.16			

Chlorinated hydrocarbons value is sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

TABLE 2-3 (Continued)
Treated Water Results Summary

Collected	Set No.	As 150 PPB		Ba 200 PPB		Cd 50 PPB		Cr 500 PPB		Cu 15 PPB		Pb 66 PPB		Mn 300 PPB		Hg 1 PPB		Ni 148 PPB		Se 20 PPB		Ag 5 PPB		Zn 162 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
5-May-94	M03A0233	32.1		69.2		.8		2.8		8.8		1.5		96.7		.1		4.5		2.		8.3		15.7	
9-May-94	M03A0234	14.		50.		1.3		2.5		5.		.8		33.		.1		5.		2.5		2.5		9.	
12-May-94	M03A0235	15.		33.		2.5		2.5		40.		1.		16.		.1		6.		5.		5.		15.	
16-May-94	M03A0236	14.6		43.5		.5		2.2		34.3		1.		26.5		.1		4.5		1.		7.		13.2	
19-May-94	M03A0237	16.		5.		2.5		2.5		30.		1.		24.		.1		6.		2.5		6.		31.	
23-May-94	M03A0238	17.		44.		.5		.5		6.		1.		13.		.1		2.5		1.		5.		7.	
26-May-94	M03A0239	15.		39.		.5		.5		6.		1.		9.		.1		6.		1.		4.		6.	
30-May-94	M03A0240	17.		37.		.4		1.		4.		1.		16.		.1		10.		1.		2.		3.	
2-Jun-94	M03A0241	20.		29.		.5		1.		15.		2.		18.		.1		2.5		1.		2.		18.	
6-Jun-94	M03A0242	11.	15.5	45.	36.2	.5	1.	8.	2.3	137.	30.8	1.	1.1	31.	20.7	.1	.1	6.	5.4	2.	1.9	10.	4.8	72.	19.4
9-Jun-94	M03A0243	15.	15.6	57.	36.9	.5	.9	2.	2.2	12.	31.6	2.	1.2	34.	20.8	.1	.1	12.	6.2	.3	1.6	3.	4.9	9.	19.4
13-Jun-94	M03A0244	11.	15.2	82.	42.4	.8	.7	13.	3.4	9.	28.1	1.	1.2	19.	21.2	.1	.1	12.	6.8	1.	1.2	3.8	4.8	14.	19.2
16-Jun-94	M03A0245	12.	14.9	94.	48.	1.	.8	1.	3.3	10.	25.4	1.	1.2	21.	20.6	.1	.1	12.	7.7	1.	1.2	3.	4.3	7.	18.6
20-Jun-94	M03A0246	9.7	14.2	116.	60.3	1.2	.7	.9	3.1	12.	23.4	1.	1.2	14.	19.4	.1	.1	10.	8.1	2.	1.1	2.8	4.	6.	15.8
23-Jun-94	M03A0247	14.	13.9	122.	69.	1.5	.8	.8	3.1	11.	24.	1.	1.2	21.	20.3	.1	.1	7.5	8.7	1.	1.1	2.5	3.7	11.	16.2
27-Jun-94	M03A0248	10.	13.3	121.	78.1	1.5	.9	9.	4.1	12.5	24.7	1.	1.2	18.	21.3	.1	.1	9.6	9.1	1.	1.1	3.6	3.6	16.	17.3
30-Jun-94	M03A0249	13.	12.9	108.	86.	1.5	1.	.3	4.	7.	25.1	1.	1.2	9.	20.6	.1	.1	8.	8.8	1.	1.1	3.	3.7	5.	17.6
4-Jul-94	M03A0250	16.	12.4	68.5	90.4	.2	1.	.3	3.9	3.5	23.8	.5	1.1	9.6	19.6	.1	.1	3.1	8.9	1.	1.1	2.6	3.8	12.	16.9
7-Jul-94	M03A0251	14.9	12.8	104.	96.9	.3	.9	.8	3.1	11.	9.8	1.	1.1	20.	18.4	.1	.1	5.	8.8	1.	1.	3.	3.	10.	10.
11-Jul-94	M03A0252	10.	12.3	110.	102.8	.5	.9	.5	3.	5.	9.	1.5	1.	10.	15.7	.1	.1	4.	7.9	1.5	1.2	3.	3.	10.	10.1
14-Jul-94	M03A0253	18.	13.1	105.	105.4	.3	.9	.3	1.5	6.	8.7	.8	1.	7.	14.4	.1	.1	4.5	7.1	.8	1.1	1.5	2.8	17.	10.4
18-Jul-94	M03A0254	10.	12.8	60.	101.6	.5	.8	.5	1.5	4.	8.	1.5	1.	10.	13.2	.1	.1	2.	6.	1.5	1.2	2.	2.7	10.	10.8
21-Jul-94	M03A0255	10.	12.9	100.	99.8	.5	.7	.5	1.4	6.	7.3	1.5	1.1	7.	12.4	.1	.1	7.	5.6	1.5	1.1	1.	2.5	10.	11.2
25-Jul-94	M03A0256	8.	12.2	110.	98.5	.3	.6	.3	1.4	3.	6.4	.8	1.1	6.	10.7	.1	.1	6.	5.5	2.	1.3	.5	2.2	6.	10.7
28-Jul-94	M03A0257	13.	12.5	64.	92.2	.3	.5	.6	.4	15.	6.7	.8	1.	29.	12.	.1	.1	6.	5.1	2.	1.4	.5	1.9	8.	9.8
1-Aug-94	M03A0258	8.	12.	100.	91.3	.3	.3	3.	.7	141.	21.6	4.	1.4	15.	12.6	.1	.1	5.	4.7	.8	1.3	.5	1.6	106.	21.
4-Aug-94	M03A0259	14.	11.8	104.	95.2	.3	.3	.3	.7	5.	21.8	.8	1.4	7.	12.3	.1	.1	11.	5.6	.8	1.3	.5	1.4	10.	20.8
8-Aug-94	M03A0260	11.	11.3	110.	95.9	.3	.3	1.5	.8	6.	21.2	.8	1.4	7.	10.9	.1	.1	15.	6.7	2.	1.4	.5	1.1	14.	21.2
11-Aug-94	M03A0261	14.	11.8	105.	95.3	.3	.3	1.	.9	3.	21.	.8	1.3	5.	10.3	.1	.1	10.	7.4	5.	1.8	.5	.8	12.	21.4
15-Aug-94	M03A0262	14.	11.3	94.	94.1	.3	.3	.3	.9	2.	20.6	.8	1.3	4.	10.	.1	.1	7.	7.7	.8	1.8	.5	.7	9.	20.6
18-Aug-94	M03A0263	14.	11.8	89.	97.3	.3	.3	1.	.9	5.	20.7	.8	1.2	3.	9.2	.1	.1	14.	9.	.8	1.7	.5	.6	12.	20.8
22-Aug-94	M03A0264	9.	11.7	70.	94.	.3	.3	.3	.9	10.5	21.2	.8	1.1	3.	8.8	.1	.1	2.	8.4	.8	1.6	.5	.5	5.	20.2
25-Aug-94	M03A0265	10.	11.9	88.	91.6	.3	.3	.3	.9	1.	20.9	.8	1.1	2.	8.3	.1	.1	3.	8.1	.8	1.5	.5	.5	3.	19.9
29-Aug-94	M03A0266	20.	12.7	80.	93.3	.3	.3	3.	1.2	5.	19.8	.8	1.1	.5	5.2	.1	.1	10.	8.6	1.5	1.4	.5	.5	12.	20.3

Metals values in PPB.

2.2 Problem Areas and Recommended Solutions

Problem	Solution
Maintain high level of safety awareness.	Continue daily lottery ticket program. Daily safety meetings. Supervisory safety contacts.
On-the-Job safety attention.	Contact all employees at least twice per day on safety issues. Review job details as work proceeds.
Hazard detection and response.	Safety inspections. HAZOP's on all jobs.
DNAPL migration in S1-16 and S1-13 area.	Maintain active pumping in S1-16 and S1-13 area to control DNAPL gradient; sheet pile wall has retarded migration.
Response action plan for DNAPL and DNAPL affected areas.	Respond to EPA comments on the endangerment assessment and response action plan. Install containment wall around INT-11 area. Evaluate other containment actions.
Low flow in some pumping and injection wells.	Test vacuum enhanced pumping. Increase injection pressure in some areas. Pressure fracture INT zone in selected areas.
INT zone plume in southwest area.	Monitor regularly. Evaluate gradient control options. Replace RD-2 with a deep well.
Affected potable water at RD-2.	Provide bottled water for drinking and cooking. Replace RD-2 with a deep well.

Treatment of final water volume from Cell F.	Land application in Cell F backfill.
Aquifer compliance criteria.	Continued discussions of approaches.
Rebound of chemicals in S1 zone on west end.	Continued pulse pumping test in this zone.
Increase INT zone remediation rate.	Increase pumping and injection rates.
Wetlands project permits.	Respond to minor comments on Corp. of Engineers 404 permit application.

2.3 Problems Resolved

Problem	Solution
Elevated Cu and Ag in water plant effluent.	Reactivated carbon contained significant Cu and Ag; replaced carbon with higher grade carbon.
Wetlands site access.	Executed access agreement with Baytown.
INT injection flow.	Increase injection pressure; install a third injection water supply well.
INT zone gradient control to southwest.	Install deep wells to replace RD-2.

2.4 Deliverables Submitted

July, 1994 Monthly Report.

2.5 Upcoming/Ongoing Events and Activities

Daily safety meetings and inspections.

Lottery ticket safety awareness program.

Regular emphasis on heat stress.

Respond to HAZOP audits.

Increase INT injection pressure and flow.

Evaluate vacuum-enhanced INT pumping.

Daily well pump checks and maintenance.

Evaluate pulse pumping in INT zone.

Pulse pumping in S1 zone.

Operate S1 and INT wells for expedited in-situ bioremediation.

Sample potable wells in Riverdale.

Provide bottled water to specific homes in Riverdale.

Install deep potable well to replace RD-2; this will improve gradient control in the INT zone.

Sell and ship surplus equipment.

Continue dewater and backfill of Cell F.

Set up for land application of Cell F water in Cell F backfill.

Evaluate vegetation in Cell E area.

Operate Data Base Management System.

Decontaminate scrap steel and pipe and put in the bottom of Cell F.

Total Quality process.

Continue biological activity monitoring in S1 wells and INT wells.

Test permeability of INT-11 area containment wall.

Develop aquifer compliance criteria.

Continue QA/QC data confirmation.

Operate secondary water collection and handling system.

Optimize carbon usage in Water Treatment Plant.

Develop lagoon closure plan.

Submit MCC-1 area remediation report.

Continue wetlands restoration project.

2.6 Key Staffing Changes

None.

2.7 Percent Complete

Research & Development	- 98%
Facilities	- 100%
Slough	- 100%
Subsoil Investigation	-100%
Floodwall	-100%
Lagoon Remediation	-100%
Groundwater	- 65%
Lagoon Dewatering/Fixation	- 85%
Water Treatment	- 60%
Wetlands	- 34%
Demobilization	- 58%
Monitoring	- 47%

2.8 Schedule

All deliverables are on schedule.

Complete active aquifer remediation by January 1, 1996.

2.9 Operations and Monitoring Data

The operations and monitoring data are submitted as parts of Sections 3.0, 4.0, 5.0, and 6.0 of this report, and the supporting data are stored in secure storage at the French project office.

2.10 Credits Accrued/Applied

Status of Credits

	Accrued this period	Accrued to date	Applied this period	Applied to date	Running total
December 1990	34	34	0	0	34
December 1991	0	100	0	0	100
December 1992	0	101	0	2	99
January 1993	0	101	0	2	99
February 1993	0	101	0	2	99
March 1993	0	101	0	2	99
April 1993	0	101	0	2	99
May 1993	0	101	0	2	99
June 1993	0	101	0	2	99
July 1993	0	101	2	4	97
August 1993	2	103	0	4	99
September 1993	0	103	0	4	99
October 1993	0	103	0	4	99
November 1993	1	104	0	4	100
December 1993	0	104	0	4	100
January 1994	0	104	0	4	100
February 1994	0	104	0	4	100
March 1994	0	104	0	4	100
April 1994	0	104	0	4	100
May 1994	0	104	0	4	100
June 1994	0	104	0	4	100
July 1994	5	109	0	4	105
August 1994	0	109	0	4	105

2.11 Community Relations

Maintained 24-hour, call-in Hot Line.

Conducted four site tours for interested parties.

Reviewed site status with TAG consultant.

Contacted nearby local residents with update on site operation.

Contacted several Riverdale residents with water quality data.

Contacted specific Riverdale residents to review deep well installation plans.

3

3.0 LAGOON BIOREMEDIATION

3.1 Summary of Activities

Planted test plots of non-riparian phreatophytes in Cell E.

Removed the dredges and workboat from Cell F.

Completed dismantling all lagoon remediation facilities.

Continued to dewater and backfill Cell F; pumped and treated 3.4 million gallons and placed 12,280 yards of backfill.

Treated about 10-15 gpm of Cell D water through the FLTG water treatment plant.

Maintained DO, OUR, and HMB in Cell F to reduce the biomass.

Developed land application plan for final Cell F water volume.

Operated aerator in Cell D to expedite biomass degradation.

3.2 Problems and Response Action

Problem	Recommended Solution
Ground cover growth slow in Cell E.	Hydroseed a second time with Bermuda.
Final elevation of lagoon area.	Grade to tie into north and east sloughs.
Final Cell F water treatment.	Land apply in cell F backfill.

3.3 Problems Resolved

None.

3.4 Deliverables Submitted

None.

3.5 Upcoming Events and Activities

Maintain pH, DO, OUR, and nutrient levels in Cell F and in Cell D.

Operate aerator/mixer in Cell F and in Cell D.

Continue to dewater and backfill Cell F.

Land apply Cell F water in the Cell F backfill.

Continue to dewater Cell D.

Re-hydroseed Cell E if required.

Maintain trees in Cell E.

4.0 GROUNDWATER AND SUBSOIL REMEDIATION

4.1 Summary of Activities

4.1.1 Operation of Production and Injection Well Systems

Operation of the production and injection wells systems during August 1994 is summarized in Table 4-1. Flows from the production well system are summarized in Table 4-2 and Figure 4-1. Flows into the injection well system are summarized in Table 4-3 and Figure 4-2. Individual well flows are summarized in Table 4-4. There were no well additions or changes in August.

4.1.2 Operational Monitoring

Operational monitoring associated with the groundwater and subsoil remediation system during August 1994 is summarized in Table 4-5. Weekly sampling for K and NO_3 in injection water ended on July 21.

4.1.3 Data Management and Evaluation

Operational monitoring data from the groundwater and subsoil remediation system for this reporting period were entered into FLTG's database. Tables and figures for this section of the Monthly Progress Report were generated from this database.

4.2 Problems and Response Actions

The groundwater production and injection rates were both above target; three more S1 production wells (S1-34, -36, and -37) were taken off line following successful pulse pumping results (pulse pumping results are presented in Attachment 4A); six S1 production wells (S1-44, -45, -46, -47, -48, and -60) continued pulse pumping on a bi-weekly cycle (see Section 4.3.2 and Table 4-4). Due to backfilling and runoff control in the former lagoon area, groundwater levels there are declining steadily, causing reduced production well flows.

The vacuum-enhanced pumping (VEP) program, which was started at wells INT-1 and -22 in July, was extended to wells INT-2 and -3 on August 17. VEP has successfully enhanced flow rates at converted wells (See Section 4.4).

Nutrient and dissolved oxygen concentrations in injection water were both above target levels. No special response action is planned.

Table 4-1

Groundwater System Operation - August 1994 *Reporting Period: July 28 - August 30 (34 days)*
Production System
No. of production wells: 109 (S1 unit, 53; INT unit, 56) No. of operational wells: 99 (S1 unit, 42; INT unit, 54)
Changes in system since last month: started VEP at INT-2 and INT-3 on 8/17
No. of wells off line having reached criteria: 9 (see Tables 4-4 and 4-7 & Attachment 4a) Other wells off line: S1-5, low water levels; S1-16, DNAPL pump down; INT-11 and -19, sheetpile wall construction; wells S1-12, 13 running but unmetered due to DNAPL; 8 S1 and 7 INT wells off on 8/22 for INT-11 wall permeability test No. of wells on pulse pumping schedule: 6 (see Table 4-4) No. of wells pumping DNAPL: 0
Groundwater produced: 6.9 M gal; 206.1 M gal since startup based on main meter Total production rate: avg. 141 gpm (target 140 gpm); range 109 - 172 gpm S1 production rate: avg. 88 gpm; avg. 2.2 gpm per metered well INT production rate: avg. 53 gpm; avg. 1.0 gpm per metered well Total flow rate apportioned between S1 and INT units based on individual well meter readings
TOC (non-volatile) concentration avg. 118 ppm; range 46 - 295 ppm TOC mass removed: 6,787 lb. (344,948 lb. since startup); 200 lb./day
Injection System
No. of injection wells: 59 (S1 unit, 17; INT unit, 42); 3 S1 and 8 INT wells off on 8/22 for INT-11 wall permeability test
Rainfall during period: 6.81"
Changes in system since last month: none
Groundwater injected: 5.7 M gal (102.6 M gal since startup) based on main meters Percentage of injected water recycled from RO plant: ~50%
S1 unit injected: 2.3 M gal (56.7 M gal since startup) INT unit injected: 3.4 M gal (45.9 M gal since startup) Total injection rate: avg. 117 gpm (target 100 gpm); range 107 - 123 gpm S1 injection rate: avg. 47 gpm; avg. 2.8 gpm per well INT injection rate: avg. 70 gpm; avg. 1.7 gpm per well Total flow rate apportioned between S1 and INT units based on individual well meter readings
Oxygen added to injection water: 12,920 lb.; 380 lb./day used (input efficiency = 18%) Avg. DO in injection water: S1, 44.9 ppm; INT, 46.0 ppm (target 40 ppm) ⇒ 69.4 lb./day
Volume of 4.7% w/w KNO_3 nutrient solution added to INT unit, S1-58, and S1-59: 18,174 gal Nutrient flow rate: 545 gpd, 0.41% of INT + S1-North inflow rate (target 0.38%) Calculated injection water NO_3 concentration: 54.4 mg/L-N (target 50 mg/L-N)

Note that average monthly flow rates at individual wells (calculated from weekly individual well flow meter readings) are not used directly to determine S1 and INT unit inflows and outflows, but are used to apportion total production and injection flows (calculated from daily main production and injection meter readings) between S1 and INT units.

Table 4-2

Daily Groundwater Production and TOC Removal
August 1994

Date	Project Day	T-101 Outflow Rate (FQ-101A) (gpd)	T-101 Outflow Rate (gpm)	T-101 Influent Ave. TOC (mg/L)	T-101 Influent TOC Loading (kg/day)
28-Jul	932	194,800	135	118	87
29-Jul	933	157,400	109	194	116
30-Jul	934	231,600	161	83	72
31-Jul	935	230,600	160	169	147
1-Aug	936	188,300	131	152	108
2-Aug	937	237,200	165	80	71
3-Aug	938	237,900	165	77	69
4-Aug	939	208,100	145	95	75
5-Aug	940	210,300	146	174	139
6-Aug	941	228,900	159	99	86
7-Aug	942	214,200	149	44	36
8-Aug	943	218,200	152	215	178
9-Aug	944	205,700	143	189	147
10-Aug	945	200,000	139	201	152
11-Aug	946	208,500	145	113	89
12-Aug	947	197,400	137	114	85
13-Aug	948	190,700	132	46	33
14-Aug	949	199,100	138	160	121
15-Aug	950	97,800	68	47	17
16-Aug	951	205,600	143	127	99
17-Aug	952	235,700	164	93	83
18-Aug	953	218,500	152	111	92
19-Aug	954	193,600	134	95	69
20-Aug	955	246,300	171	109	102
21-Aug	956	197,300	137	96	72
22-Aug	957	247,000	172	62	58
23-Aug	958	184,700	128	60	42
24-Aug	959	205,600	143	295	230
25-Aug	960	178,100	124	96	64
26-Aug	961	179,800	125	180	123
27-Aug	962	174,300	121	95	62
28-Aug	963	173,100	120	90	59
29-Aug	964	186,600	130	73	51
30-Aug	965	214,800	149	62	51
Month Average		202,874	141	118	91
Month Total		6,897,700			3,085

Note: Flow was under-reported for August 15 due to a blocked meter

Table 4-3

Daily Injection Flows
August 1994

Date	Project Day	INT South INT-90/100 S1 North Injection Wells FQ905 - FQ909		INT North (not INT-90/100) Injection Wells Meter FQ-906		S1 South Injection Wells Meter FQ-909		Total Injection Rate	
		(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)
28-Jul	932	124,300	86	40,000	28	72,100	50	174,200	121
29-Jul	933	118,000	82	41,200	29	61,300	43	175,400	122
30-Jul	934	124,900	87	42,300	29	59,600	41	176,500	123
31-Jul	935	124,600	87	41,700	29	59,800	42	175,900	122
1-Aug	936	121,900	85	40,100	28	53,900	37	174,300	121
2-Aug	937	122,900	85	39,700	28	64,700	45	173,900	121
3-Aug	938	121,300	84	38,600	27	58,500	41	172,800	120
4-Aug	939	122,700	85	38,600	27	59,700	41	172,800	120
5-Aug	940	123,300	86	38,700	27	59,400	41	172,900	120
6-Aug	941	123,300	86	38,300	27	59,700	41	172,500	120
7-Aug	942	116,400	81	41,300	29	57,600	40	175,500	122
8-Aug	943	114,700	80	42,500	30	74,200	52	176,700	123
9-Aug	944	132,000	92	43,200	30	64,000	44	177,400	123
10-Aug	945	132,900	92	41,600	29	70,800	49	175,800	122
11-Aug	946	124,600	87	40,700	28	70,500	49	174,900	121
12-Aug	947	77,800	54	28,800	20	42,500	30	163,000	113
13-Aug	948	111,200	77	42,600	30	67,200	47	176,800	123
14-Aug	949	108,000	75	42,200	29	67,400	47	176,400	123
15-Aug	950	100,400	70	39,400	27	67,200	47	173,600	121
16-Aug	951	111,300	77	40,700	28	68,000	47	174,900	121
17-Aug	952	110,700	77	37,100	26	67,400	47	171,300	119
18-Aug	953	106,400	74	36,500	25	65,800	46	170,700	119
19-Aug	954	96,000	67	28,100	20	88,800	62	162,300	113
20-Aug	955	82,500	57	35,600	25	132,300	92	169,800	118
21-Aug	956	83,700	58	35,200	24	131,800	92	169,400	118
22-Aug	957	82,400	57	23,300	16	113,500	79	157,500	109
23-Aug	958	83,400	58	26,400	18	103,600	72	160,600	112
24-Aug	959	79,300	55	23,800	17	100,100	70	158,000	110
25-Aug	960	75,100	52	21,900	15	95,400	66	156,100	108
26-Aug	961	75,800	53	21,300	15	100,900	70	155,500	108
27-Aug	962	79,600	55	22,900	16	107,100	74	157,100	109
28-Aug	963	80,400	56	24,800	17	107,000	74	159,000	110
29-Aug	964	77,000	53	23,700	16	113,100	79	157,900	110
30-Aug	965	79,900	55	19,900	14	115,200	80	154,100	107
Month Average		104,374	72	34,785	24	79,415	55	168,985	117
Month Total		3,548,700		1,182,700		2,700,100		5,745,500	

Table 4-4

Average Production and Injection Flow Rates - August 1994

S1 Production Wells (53)

Well ID	gpm
S1-1	1.4
S1-2	0.2
S1-3	0.4
S1-4	0.2
S1-5	OFF
S1-6	1.7
S1-7	0.5
S1-8	0.3
S1-9	0.9
S1-10	1.2
S1-11	1.3
S1-12	NM
S1-13	NM
S1-14	0.3
S1-15	0.9
S1-16	OFF
S1-17	0.9
S1-18	1.4
S1-19	3.0
S1-20	0.9
S1-21	4.9
S1-22	1.6
S1-23	OFF
S1-24	5.2
S1-25	1.6
S1-26	4.2
S1-27	0.9
S1-28	3.7
S1-29	0.4
S1-30	3.7
S1-31	3.5
S1-32	2.2
S1-33	OFF
S1-34	OFF
S1-35	OFF
S1-36	OFF
S1-37	OFF
S1-38	OFF
S1-39	6.6
S1-40	5.1
S1-41	6.3
S1-42	OFF
S1-43	OFF
S1-44	9.2 PP
S1-45	5.0 PP
S1-46	7.0 PP
S1-47	3.5 PP
S1-48	0.8 PP
S1-60	1.6 PP
S1-61	0.1
S1-62	0.5
S1-63	1.4
S1-64	1.1
Total	95.6
Average*	2.4

* of metered wells

S1 Injection Wells (17)

Well ID	gpm
S1-49	2.2
S1-50	3.4
S1-51	1.2
S1-52	1.7
S1-53	3.4
S1-54	3.6
S1-55	3.2
S1-56	4.6
S1-57	4.3
S1-58	1.6
S1-59	2.4
S1-65	2.7
S1-66	2.7
S1-67	3.1
S1-68	2.3
S1-69	3.0
S1-70	2.0
Total	47.4
Average	2.8

Wells S1-58, 59, 65, 66, 67, 68, 69, and 70 receive oxygen- and nutrient-amended injection water

All other S1 wells receive oxygenated injection water only

Notes
OFF - well inoperative
NM - well running but not metered
PP - well in pulse pumping mode

INT Production Wells (56)

Well ID	gpm
INT-1	1.9
INT-2	0.3
INT-3	0.1
INT-4	0.1
INT-5	0.8
INT-6	0.1
INT-7	0.2
INT-8	0.9
INT-9	0.6
INT-10	2.4
INT-11	OFF
INT-12	1.0
INT-13	0.3
INT-14	0.2
INT-15	0.8
INT-16	0.2
INT-17	0.1
INT-18	0.5
INT-19	OFF
INT-20	0.1
INT-21	0.2
INT-22	0.5
INT-23	0.1
INT-24	0.4
INT-25	0.4
INT-26	0.4
INT-27	1.6
INT-28	0.5
INT-29	2.8
INT-30	1.2
INT-31	1.2
INT-32	0.8
INT-33	0.3
INT-55	2.3
INT-56	0.2
INT-57	0.6
INT-58	1.8
INT-59	0.2
INT-60	1.6
INT-61	0.8
INT-62	0.2
INT-65	1.1
INT-66	0.7
INT-205	0.8 PP
INT-206	1.4 PP
INT-207	1.1 PP
INT-208	2.6 PP
INT-209	0.3 PP
INT-210	1.4 PP
INT-211	1.3 PP
INT-212	2.8 PP
INT-213	2.3
INT-214	3.3
INT-215	6.1
INT-216	0.6 PP
INT-217	2.8 PP
Total	57.7
Average	1.1

INT Injection Wells (42)

Well ID	gpm
INT-63	2.5
INT-64	OFF
INT-71	2.3
INT-72	1.9
INT-73	0.6
INT-74	1.3
INT-75	1.8
INT-76	3.4
INT-77	2.8
INT-78	3.3
INT-79	0.8
INT-80	1.8
INT-81	1.8
INT-82	0.5
INT-83	1.5
INT-84	5.4
INT-85	1.3
INT-86	1.3
INT-87	0.8
INT-88	1.2
INT-89	0.8
INT-90	3.8
INT-91	1.3
INT-92	1.8
INT-93	1.4
INT-94	1.7
INT-95	2.4
INT-96	0.9
INT-97	1.4
INT-98	2.5
INT-99	3.0
INT-100	0.3
INT-201	1.5
INT-202	0.9
INT-203	0.9
INT-204	1.0
INT-218	1.7
INT-219	1.6
INT-220	1.0
INT-221	0.6
INT-222	2.4
INT-223	1.9
Total	71.5
Average	1.7

All INT injection wells receive oxygen- and nutrient-amended injection water

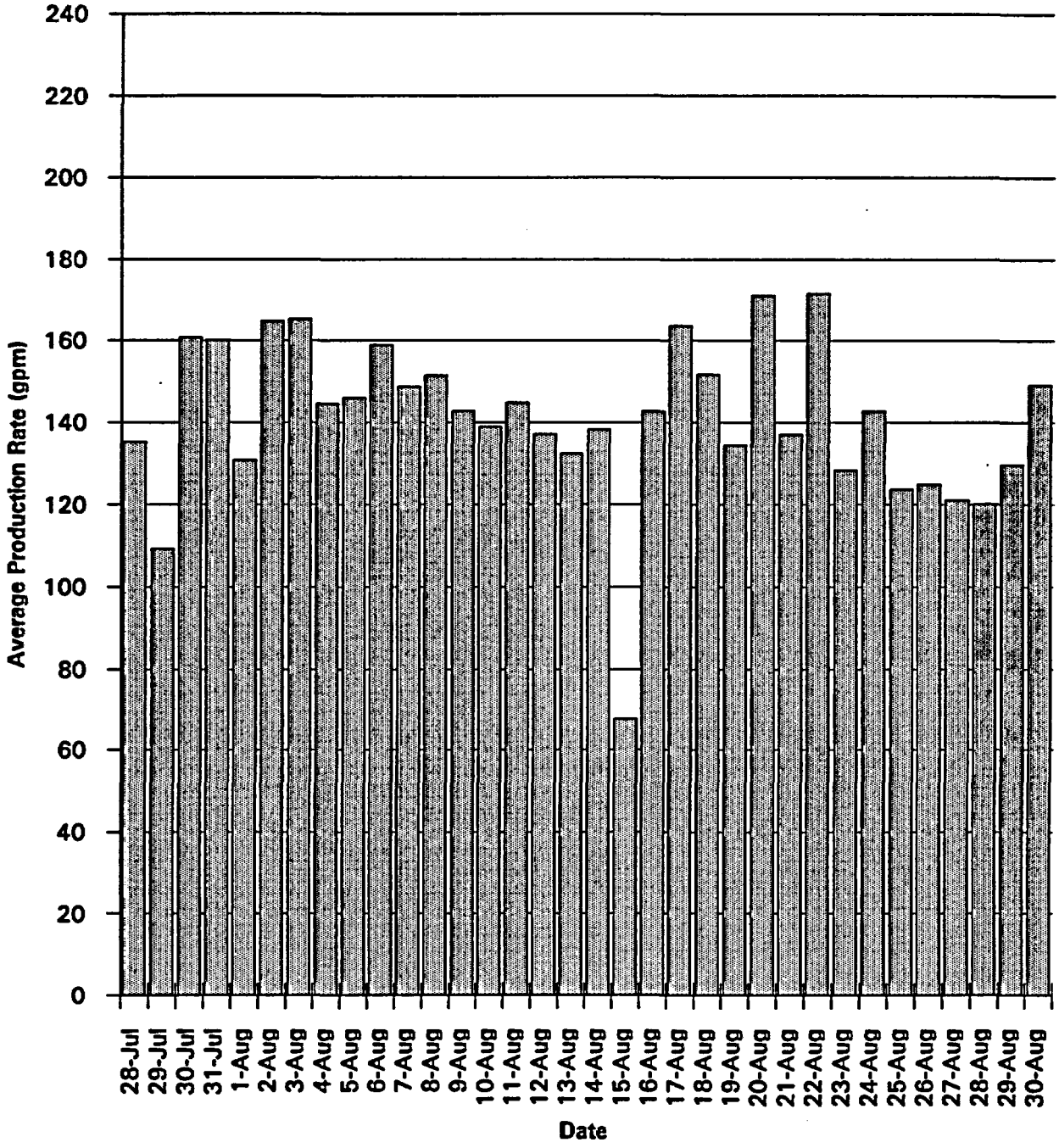
Note: total and average flow rates for S1 and INT units are corrected (per main flow meter readings) for use in Table 4-1.

Table 4-5

Operational Monitoring - August 1994

Activity	Frequency	Purpose
Check production and injection wells for pump, meter, and level control operation, injection pressure, gas buildup, and flow meter readings.	Daily	Identify and respond to individual well problems; maintain operating efficiency.
Read groundwater treatment plant inflow and outflow meters; nutrient injection flow meters; oxygen flows, pressure and temperature; and injection header back pressure.	Daily (shift changes)	Identify and respond to treatment plant problems; control nutrient and injection flow rates.
Measure T-101 influent and effluent TOC concentrations.	Daily (shift changes)	Track removal of TOC.
Measure rainfall.	Daily	Assists interpretation of water level maps.
Measure dissolved oxygen at 11 representative S1 and INT injection wells	Weekly	Main control for oxygen injection rate.
Sample T-101 influent for VOC, TOC, and nutrient analysis, (1) from all operating production wells, and (2) from all wells located outside the floodwall.	Monthly	Develop chemical mass balance.
Sample Rochem effluent for VOC analysis.	Monthly	Confirm that treated water is suitable for blending with injection water.
Monitor groundwater levels at all monitoring wells.	Monthly	Verify capture zones.
Monitor groundwater levels at INT west area monitoring wells.	Weekly	Verify capture zone in proposed INT pulse pumping area.
Monitor in-situ DO at all monitoring wells.	Monthly	Monitor breakthrough of aerobic conditions.
Sample groundwater at all production wells for on-site TOC and DO analysis.	Monthly	Track TOC removal and monitor breakthrough of aerobic conditions.

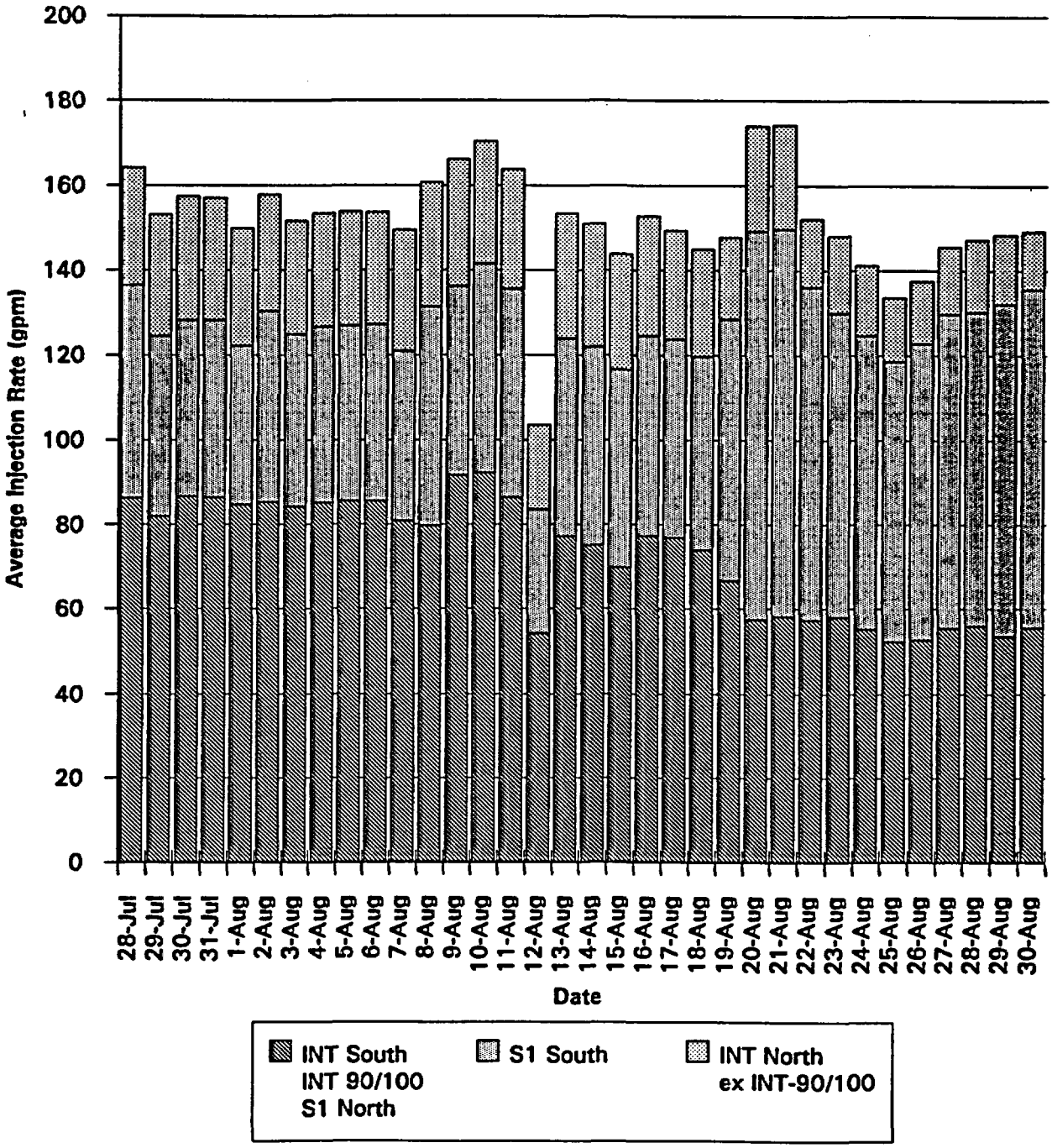
Figure 4-1
Groundwater Production Rate



Note: Flow was under-reported for August 15 due to a blocked meter

Figure 4-2

Groundwater Injection Rate



4.3 Pending Issues

4.3.1 DNAPL Response

Responses were prepared for EPA's comments on the Feasibility Study Report. Installation of the steel sheetpile cutoff wall for the INT-11 DNAPL area was completed on August 18. Production and injection wells in the area were reinstalled on August 19. All production and injection wells within a 120-foot radius of the sheetpile wall were turned off on August 22 to establish baseline conditions for permeability tests at the sheetpile wall. Planned permeability testing for the wall area, using existing pumping, injection, and monitoring wells, is described in Attachment 4B. Testing started on August 31.

A sample of DNAPL was obtained from buildup on the pump at new production well S1-63, located just outside the sheetpile wall in the S1-16 DNAPL study area. Analyses received at the end of August confirmed that the material has the same chemical signature (high chloroform, carbon tetrachloride, 1,2-DCA, 1,2-DCE, and TCE) as DNAPL samples from inside the floodwall. High concentrations of BTEX were also detected. Preliminary analytical results are presented in Attachment 4C. The water sample from S1-63 did not indicate the presence of DNAPL; the data suggests that S1-63 is close to DNAPL (S1-16). It was concluded that the potential DNAPL impact is limited to a radius of about 15' around S1-63. Response options are being evaluated.

4.3.2 S1 Unit Pulse Pumping

Nine S1 production wells have now been turned off following successful pulse pumping results. The relevant sampling and analytical results are presented in Attachment 4A. Pulse pumping continued routinely in the eastern part of the S1 plume, at wells S1-44 through -60. Sampling at wells S1-44 through -60 is planned for September.

4.3.3 INT Unit Pulse Pumping

A program of pulse pumping western area INT production wells was started on July 25. Groundwater levels were monitored in this area on a weekly basis to monitor the western capture zone during pulse pumping operations. Weekly groundwater level monitoring indicated that the western capture zone was maintained with the northern group (INT-205, -206, -207, -208, and -212) pumping and the southern group (INT-209, -210, -211, -216, and -217) off (see Figure 4-3). However, the western capture zone broke down with the northern group off and the southern group pumping (see Figure 4-4). As a result, pulse pumping in this area was suspended; all wells are now operational. The western capture zone was quickly re-established (see Figure 4-5).

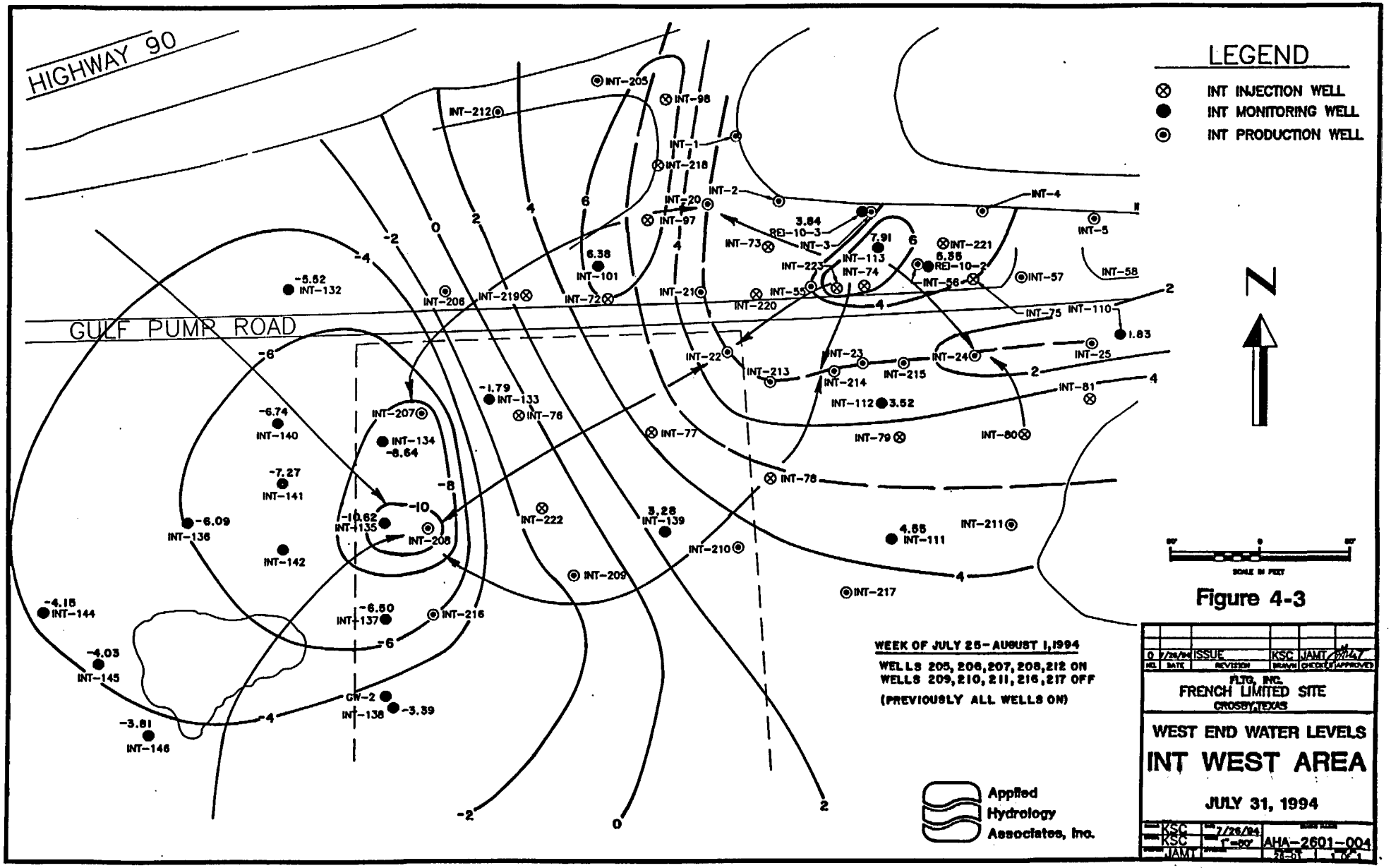

HIGHWAY 90
GULF PUMP ROAD
LEGEND
INT INJECTION WELL
INT MONITORING WELL
INT PRODUCTION WELL
N
WEEK OF JULY 25 - AUGUST 1, 1994
WELLS 205, 206, 207, 208, 212 ON
WELLS 209, 210, 211, 216, 217 OFF
(PREVIOUSLY ALL WELLS ON)
Applied Hydrology Associates, Inc.
FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS
WEST END WATER LEVELS
INT WEST AREA
JULY 31, 1994
AHA-2601-004

Figure 4-3

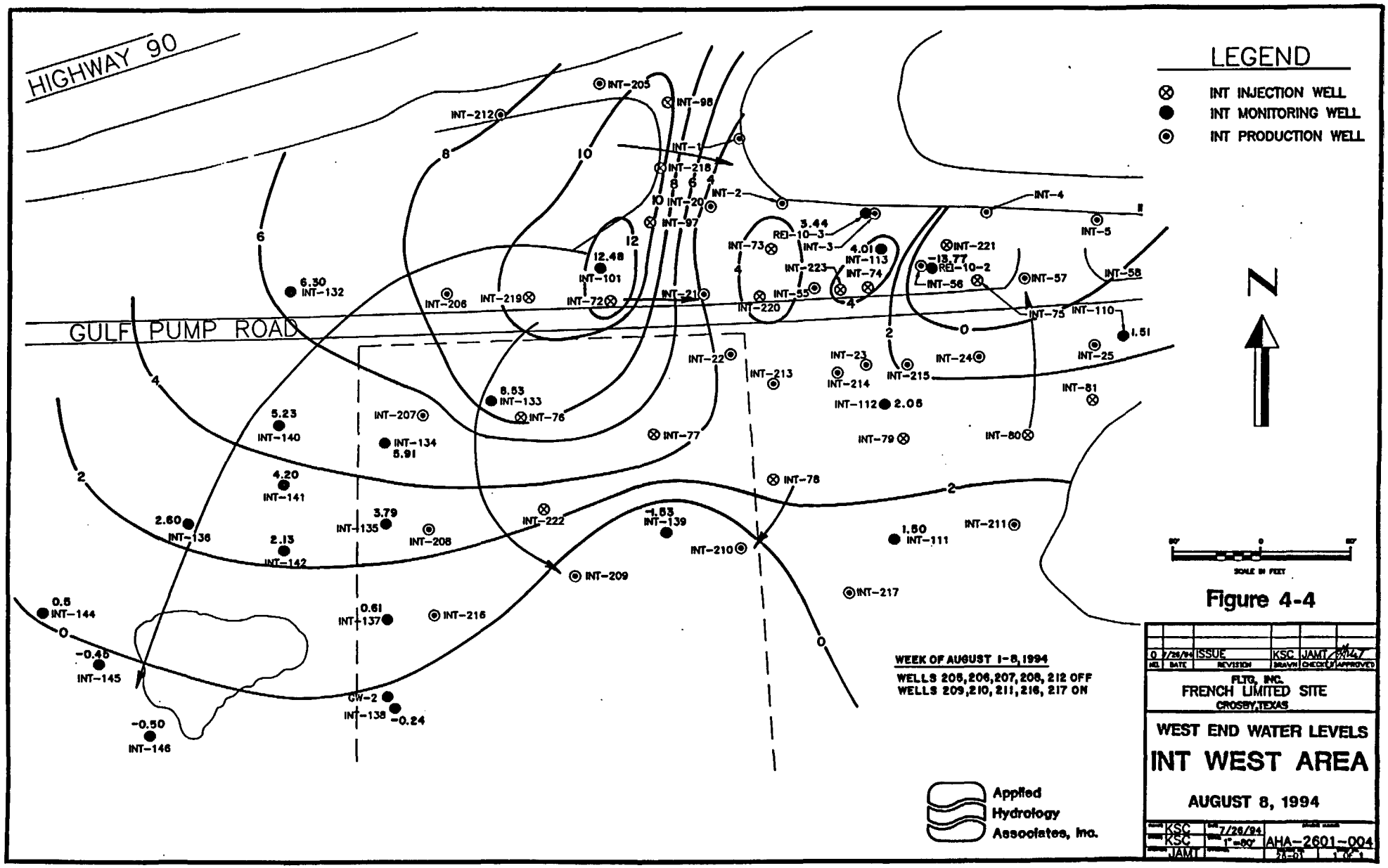


Figure 4-4

NO.	DATE	REVISION	DRAWN	CHECKED	APPROVED
0	7/26/94	ISSUE	KSC	JAMT	

FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS

WEST END WATER LEVELS
INT WEST AREA
AUGUST 8, 1994

DRAWN KSC	DATE 7/26/94	SCALE AS NOTED	AHA-2601-004
CHECKED KSC	1"=80'		
APPROVED JAMT			

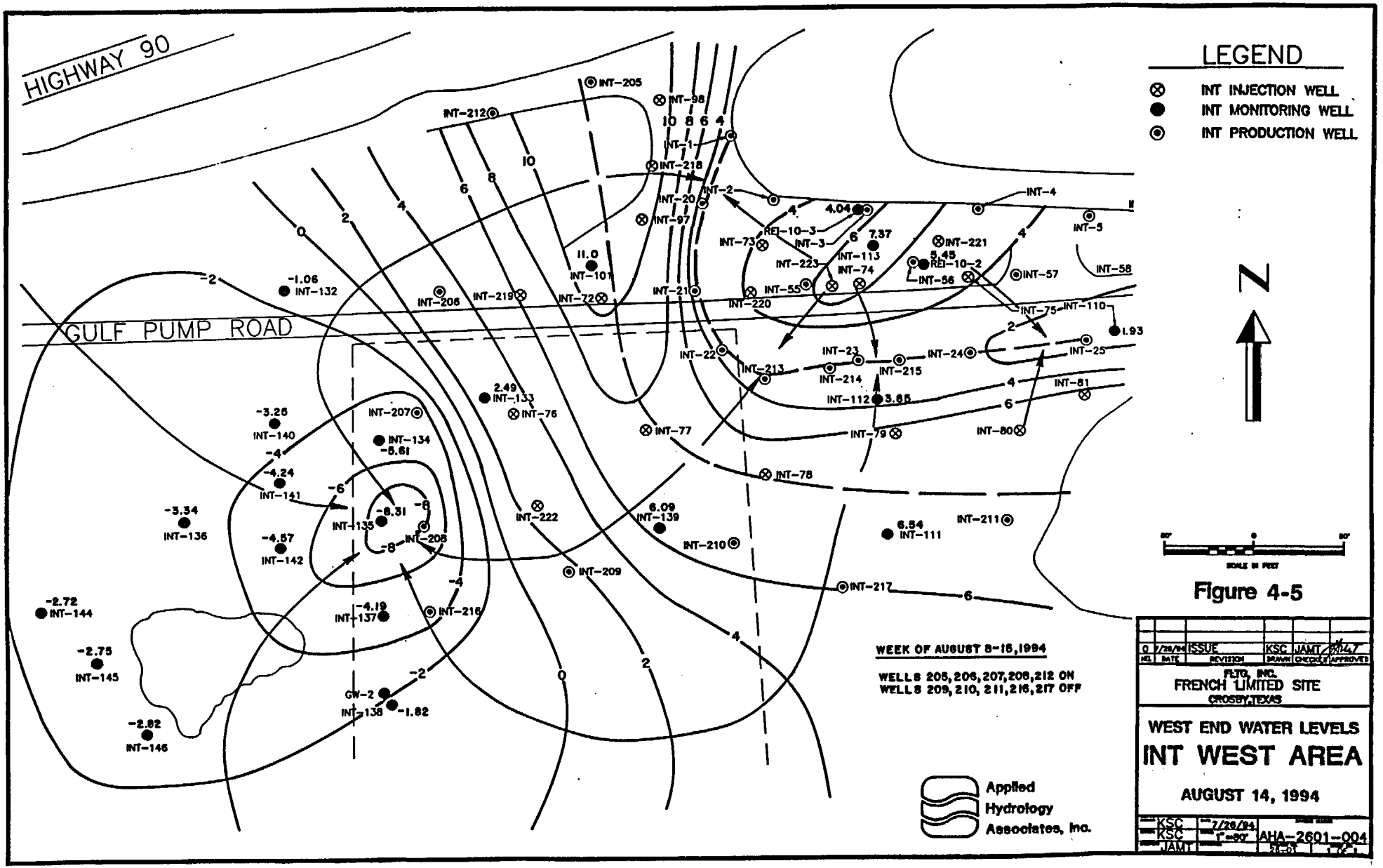

HIGHWAY 90
GULF PUMP ROAD
LEGEND
INT INJECTION WELL
INT MONITORING WELL
INT PRODUCTION WELL
N
WEEK OF AUGUST 8-15,1994
WELLS 205,206,207,208,212 ON
WELLS 209,210,211,216,217 OFF
Applied Hydrology Associates, Inc.
FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS
WEST END WATER LEVELS
INT WEST AREA
AUGUST 14, 1994
AHA-2601-004

Figure 4-5

4.3.4 Phreatophyte Progress

Specimens of cypress and river birch were planted within the floodwall in July. By the end of August, 100% of the cypress and 40% of the river birch were showing signs of new growth after the shock of transplanting.

4.4 Operational Refinements

The following table indicates the increases in flow rates due to vacuum-enhanced pumping (VEP) at the wells converted in July:

Well	Date converted	Average flow rate before conversion (gpm)	Average flow rate after conversion (gpm)	% increase
INT-1	7/18	0.95	1.92	102%
INT-22	7/18	0.38	0.49	29%

Further VEP conversions were performed in late August at INT-2 and INT-3. Both wells were connected to a single vacuum pump, and are operating successfully under a high vacuum (28-29" Hg); there is currently insufficient data to determine the enhancement in flow rates at these wells.

4.5 Data Summary and Discussion

4.5.1 Groundwater Production and Injection

Groundwater production and injection rates continued above target.

4.5.2 Groundwater Levels and Flow Directions

Water level readings for the S1 and INT units were measured on August 1. Regional groundwater elevation contours for the S1 and INT units in the groundwater remediation area are presented in Figures 4-6 and 4-7. The current extent of contaminated groundwater is contained within the S1 and INT extraction system capture zones.

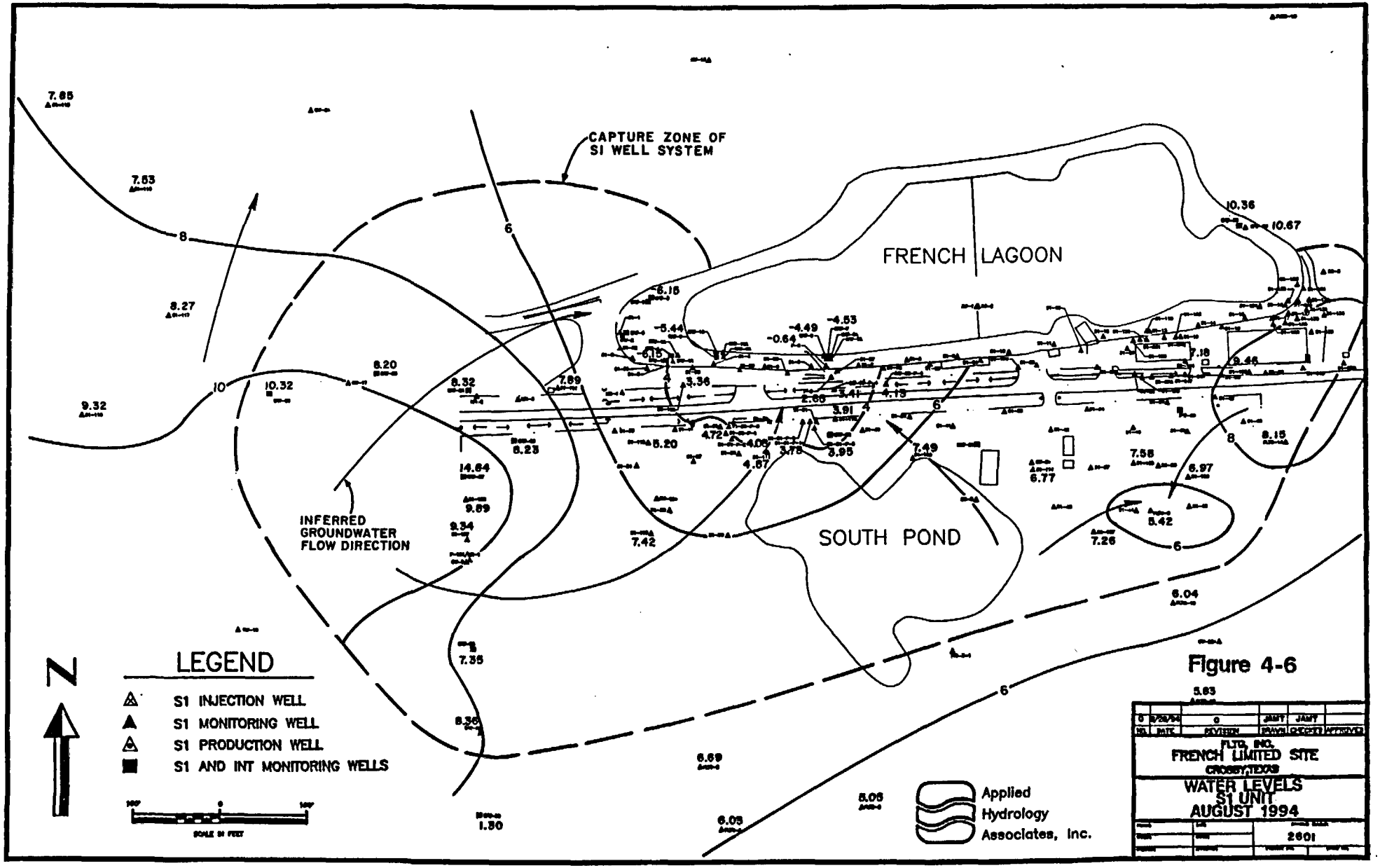


Figure 4-6

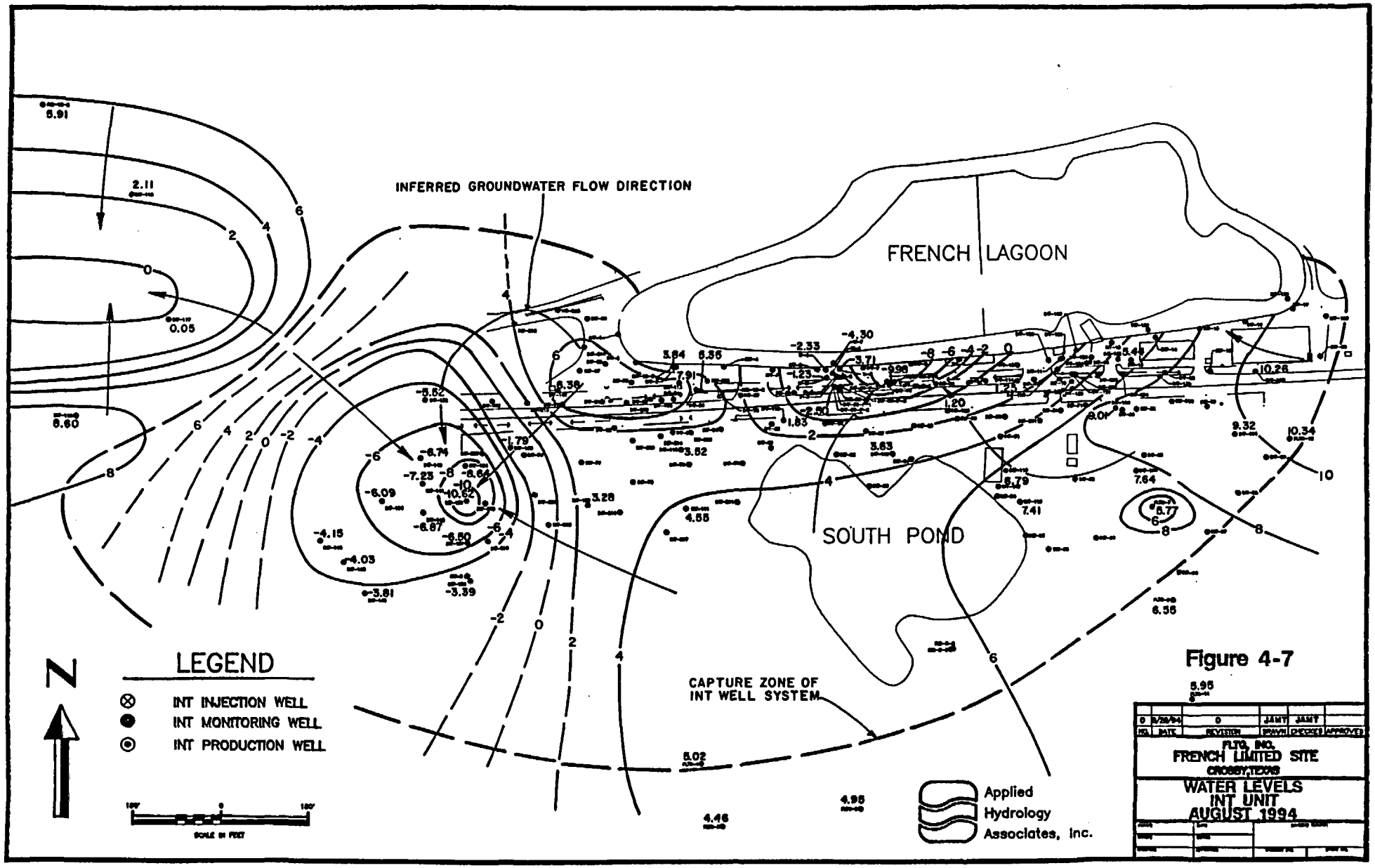


Figure 4-7

4.5.3 TOC in shallow groundwater

Samples were collected from 105 out of 109 production wells on August 3 for on-site TOC analysis. Summaries of TOC concentrations from the start of remediation to date for each unit are presented in Tables 4-6 and 4-7. TOC contour maps are presented in Figures 4-8 and 4-9. The history of daily flows, TOC concentration, and TOC input to T-101 is presented in Table 4-2. On-site TOC analyses (used to generate Tables 4-2, 4-6, and 4-7) measure non-purgeable organic carbon.

4.5.4 In-Situ Bioremediation

No major changes in in-situ bioremediation system operation occurred in August. The emphasis continues to be to maximize delivery of oxygen and nutrients to the INT system. Dissolved oxygen (DO) monitoring was performed at monitoring and production wells on August 1-3. In August, new DO breakthrough areas developed at S1-48, S1-60, INT-57, INT-209, and INT-216 (see Figures 4-10 and 4-11). At S1-22 and S1-47, post-breakthrough DO drops occurred; this has now been seen at several areas and is attributed to an increase in biological oxygen demand following DO breakthrough; the resulting rapid growth in aerobic bioactivity leads to oxygen consumption temporarily exceeding oxygen delivery rates.

4.5.5 Remediation Progress

The June 1994 monitoring results are summarized in "cleanup area" maps (Figures 4-12 and 4-13). These maps identify wells sampled and the number of VOCs exceeding criteria. In the S1 unit (Figure 4-12), benzene is the only VOC exceeding cleanup criteria except for the S1-13 and S1-16 DNAPL study areas. Wells reaching cleanup criteria since March 1994 include S1-104 and S1-111. The improvement at S1-104 is due to new injection wells S1-66, -67, and -68, which were brought on line in late April 1994. The improvement at S1-111 was anticipated; benzene concentrations were only just over cleanup criteria in March 1994.

In the INT unit (Figure 4-13), progress in cleanup is directly related to areas where injection enhances flushing and bioremediation. No new wells reached criteria in June. However, well INT-113 was very close to cleanup with 1,2-DCA detected at 6 µg/L (criteria 5 µg/L). This is a significant improvement over March 1994, when vinyl chloride (125 µg/L), acetone (13,500 µg/L), 1,2-dichloroethane (72 µg/L), 1,2-dichloropropane (10 µg/L), benzene (191 µg/L), and 2-hexanone (40 µg/L) all exceeded criteria. The improvement at INT-113 is due to injection at INT-223, which was brought on line in April 1994.

4.6 Schedule

In September: permeability certification testing for the INT-11 DNAPL cutoff wall will be completed; quarterly groundwater sampling will be performed (including progress monitoring at S1-44 through -60); and response options for the DNAPL impact at S1-63 will be evaluated.

Table 4-6

HISTORY OF TOC CONCENTRATIONS
AT S1 PRODUCTION WELLS

Well ID	Baseline Nov-Dec 91 (ppm)	Maximum Feb-Dec 92 (ppm)	Maximum 1,993 (ppm)	Average 1,993 (ppm)	Minimum 1,993 (ppm)	Jan 1,994 (ppm)	Feb 1,994 (ppm)	Mar 1,994 (ppm)	Apr 1,994 (ppm)	May 1,994 (ppm)	June 1,994 (ppm)	July 1,994 (ppm)	Aug 1,994 (ppm)
S1-1	290	476	910	634	390	1,025	1,150	1,317	941	971	1,360	970	850
S1-2	190	796	1,204	832	460	1,037	909	1,510	982	1,120	1,139	1,100	1,130
S1-3	370	1,071	1,610	862	384	1,090	1,120	1,037	793	783	755	760	670
S1-4	47	866	1,044	786	560	848	1,300	1,025	676	669	668	420	552
S1-5	51	646	950	714	548	1,079	624	1,151	655	583	473	NS	NS
S1-6	51	800	1,084	816	482	1,202	1,340	1,315	832	878	892	920	860
S1-7	200	787	1,084	879	710	NS	1,290	1,327	857	843	786	780	800
S1-8	64	927	1,072	769	465	1,118	1,290	1,516	921	931	1,110	880	800
S1-9	77	506	1,530	830	225	1,809	2,020	2,085	1,500	337	1,589	1,420	1,760
S1-10	46	214	2,105	1,381	147	2,251	2,610	2,540	1,716	1,980	1,800	1,810	1,770
S1-11	120	281	1,848	1,193	270	2,004	2,210	NS	1,500	1,609	1,751	1,810	1,639
S1-12	140	1,002	2,260	1,200	585	2,313	2,390	2,129	1,780	2,056	1,445	2,410	2,210
S1-13	520	894	760	598	404	771	930	990	698	836	722	850	790
S1-14	590	1,730	2,304	1,214	626	1,502	1,077	1,616	1,350	1,293	1,443	1,400	1,550
S1-15	5,300	4,910	3,696	2,374	336	3,373	2,756	2,778	3,030	2,484	2,280	3,490	2,080
S1-16	8,900	8,900	3,122	1,651	180	NS	2,056	2,732	2,256	NS	718	NS	NS
S1-17	6,800	5,550	1,106	750	405	627	388	344	314	266	180	230	102
S1-18	2,200	2,043	196	112	52	90	101	44	86	39	34	36	34
S1-19	20	914	220	110	53	26	37	33	60	25	28	28	25
S1-20	120	1,360	192	126	60	25	95	141	57	68	50	47	68
S1-21	65	418	1,020	134	23	113	48	17	29	18	8	19	19
S1-22	290	1,080	1,010	123	8	12	6	4	28	14	19	16	44
S1-23	350	234	1,315	137	7	24	14	27	29	13	21	NS	NS
S1-24	250	240	200	52	16	25	16	16	39	16	18	19	19
S1-25	550	660	91	35	11	26	16	16	28	14	15	15	15
S1-26	540	575	84	34	14	25	25	22	39	16	18	17	17
S1-27	220	219	400	119	52	51	62	60	52	45	42	41	35
S1-28	370	520	380	64	11	275	29	12	23	14	15	17	15
S1-29	670	496	182	47	16	50	62	23	28	19	20	23	21
S1-30	370	711	604	113	27	51	50	78	38	28	31	32	26
S1-31	14	712	70	34	15	0	57	29	60	15	17	20	17
S1-32	18	347	910	185	30	100	132	85	82	48	49	46	45
S1-33	10	30	55	30	12	101	99	16	25	NS	NS	NS	15
S1-34	11	50	94	50	24	79	90	76	24	NS	13	17	16
S1-35	24	154	95	68	22	25	43	45	64	44	43	19	86
S1-36	200	162	106	56	10	60	49	44	45	NS	27	30	43
S1-37	13	71	180	44	12	50	52	55	57	NS	9	23	35
S1-38	59	73	52	21	1	NS	1,540	6	17	NS	NS	NS	24
S1-39	290	414	96	35	17	15	25	22	21	14	11	14	17
S1-40	150	210	268	70	25	38	25	33	25	18	15	16	14
S1-41	170	116	84	31	14	1	48	12	17	12	11	11	12
S1-42	88	103	35	17	5	0	11	37	13	NS	NS	NS	21
S1-43	4	36	50	24	6	1	21	NS	19	NS	NS	5	5
S1-44	280	204	45	25	9	25	19	44	33	23	21	23	21
S1-45	4,400	588	174	51	14	37	20	30	33	26	NS	17	28
S1-46	480	462	76	18	4	1	11	10	21	15	NS	34	21
S1-47	1,200	1,390	155	79	25	150	72	61	60	42	NS	25	46
S1-48	1,200	1,505	133	52	15	50	34	31	31	21	NS	35	37
S1-60	48	91	126	28	8	25	11	15	16	10	NS	10	26
S1-61	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	758	744	1,028
S1-62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	125	42	26
S1-63	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	264	256	193
S1-64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	512	102	63

NS = Not Sampled

Table 4-7

HISTORY OF TOC CONCENTRATIONS
AT INT PRODUCTION WELLS

Well ID	Baseline Nov-Dec 91 (ppm)	Maximum Feb-Dec 92 (ppm)	Maximum 1,993 (ppm)	Average 1,993 (ppm)	Minimum 1,993 (ppm)	Jan 1,994 (ppm)	Feb 1,994 (ppm)	Mar 1,994 (ppm)	Apr 1,994 (ppm)	May 1,994 (ppm)	June 1,994 (ppm)	July 1,994 (ppm)	Aug 1,994 (ppm)
INT-1	3,600	3,600	1,584	1,029	460	1,050	718	800	608	507	374	375	290
INT-2	1,800	1,120	900	414	215	174	230	290	301	343	339	602	288
INT-3	5,200	2,030	1,935	1,389	218	2,080	1,926	1,188	1,362	1,058	1,260	1,548	1,092
INT-4	610	928	793	526	330	587	1,300	1,300	990	992	641	594	542
INT-5	960	1,689	536	356	190	263	248	205	159	94	101	92	70
INT-6	280	973	1,140	556	90	720	451	510	312	210	200	135	180
INT-7	100	245	1,100	308	24	99	74	99	104	117	140	147	129
INT-8	75	668	186	90	24	112	103	84	87	62	60	56	53
INT-9	800	1,413	358	178	101	188	174	142	105	78	77	68	69
INT-10	1,900	1,328	186	109	57	100	93	112	96	65	62	NS	52
INT-11	590	1,816	171	117	80	175	186	NS	85	11	44	NS	NS
INT-12	3,300	1,820	1,255	399	141	364	239	106	123	66	105	65	48
INT-13	590	924	251	122	40	99	67	63	50	47	89	50	28
INT-14	24	1,026	492	266	58	226	154	112	162	62	NS	61	84
INT-15	19	1,760	38	20	9	12	34	20	18	14	19	13	30
INT-16	2,000	2,230	147	28	6	13	12	15	13	9	11	7	10
INT-17	7	252	164	61	39	152	25	13	15	12	NS	9	8
INT-18	4	129	270	183	139	225	230	162	137	76	73	64	51
INT-19	1,400	1,800	332	158	52	112	76	55	55	43	36	NS	NS
INT-20	3,500	3,742	3,141	2,123	901	2,147	1,960	2,525	1,844	2,112	1,922	1,930	1,810
INT-21	29	301	325	260	130	362	327	240	217	214	214	356	204
INT-22	8	68	76	45	18	43	58	55	32	41	44	85	101
INT-23	16	74	112	73	43	48	53	40	32	26	50	241	153
INT-24	240	434	472	293	38	202	174	136	111	85	89	95	84
INT-25	36	376	272	169	58	76	60	65	62	32	24	30	25
INT-26	120	970	837	430	143	203	173	152	131	113	38	111	108
INT-27	180	324	268	196	107	75	109	116	104	82	85	NS	83
INT-28	630	648	288	200	57	187	80	48	51	53	34	38	32
INT-29	1,100	1,120	450	245	74	162	130	104	58	78	65	83	59
INT-30	1,400	606	294	129	43	112	60	32	28	22	32	26	31
INT-31	70	540	120	62	29	12	67	52	41	32	25	30	30
INT-32	880	470	208	119	48	124	26	16	29	20	24	23	25
INT-33	120	1,710	1,620	910	25	1,374	1,006	255	109	61	47	38	29
INT-55	NS	NS	53	53	53	235	113	115	76	147	98	141	109
INT-56	NS	NS	668	668	668	901	824	925	153	515	435	350	314
INT-57	NS	NS	28	28	28	12	29	40	24	58	61	74	40
INT-58	NS	NS	102	102	102	10	94	76	67	54	46	44	45
INT-59	NS	NS	121	121	121	100	104	115	81	50	77	45	112
INT-60	NS	NS	172	172	172	201	169	195	151	124	118	114	111
INT-61	NS	NS	56	56	56	78	80	95	54	59	48	43	38
INT-62	NS	NS	52	52	52	75	197	100	65	36	38	30	56
INT-65	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	65	116	61
INT-66	NS	NS	114	114	114	125	132	175	161	97	113	66	83
INT-205	NS	NS	31	31	31	39	132	120	50	34	39	40	36
INT-206	NS	NS	24	24	24	218	48	44	45	38	53	75	110
INT-207	NS	NS	66	66	66	101	71	56	58	38	52	47	28
INT-208	NS	NS	27	27	27	19	53	20	24	16	38	19	20
INT-209	NS	NS	35	35	35	40	62	52	51	50	43	46	50
INT-210	NS	NS	36	36	36	42	48	24	29	25	22	72	32
INT-211	NS	NS	109	109	109	151	127	88	89	55	57	53	76
INT-212	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	36	24	22
INT-213	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	36	135	45
INT-214	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	35	68	47
INT-215	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	170	174	94
INT-216	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	22	21	24
INT-217	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	62	61	81

NS = Not Sampled

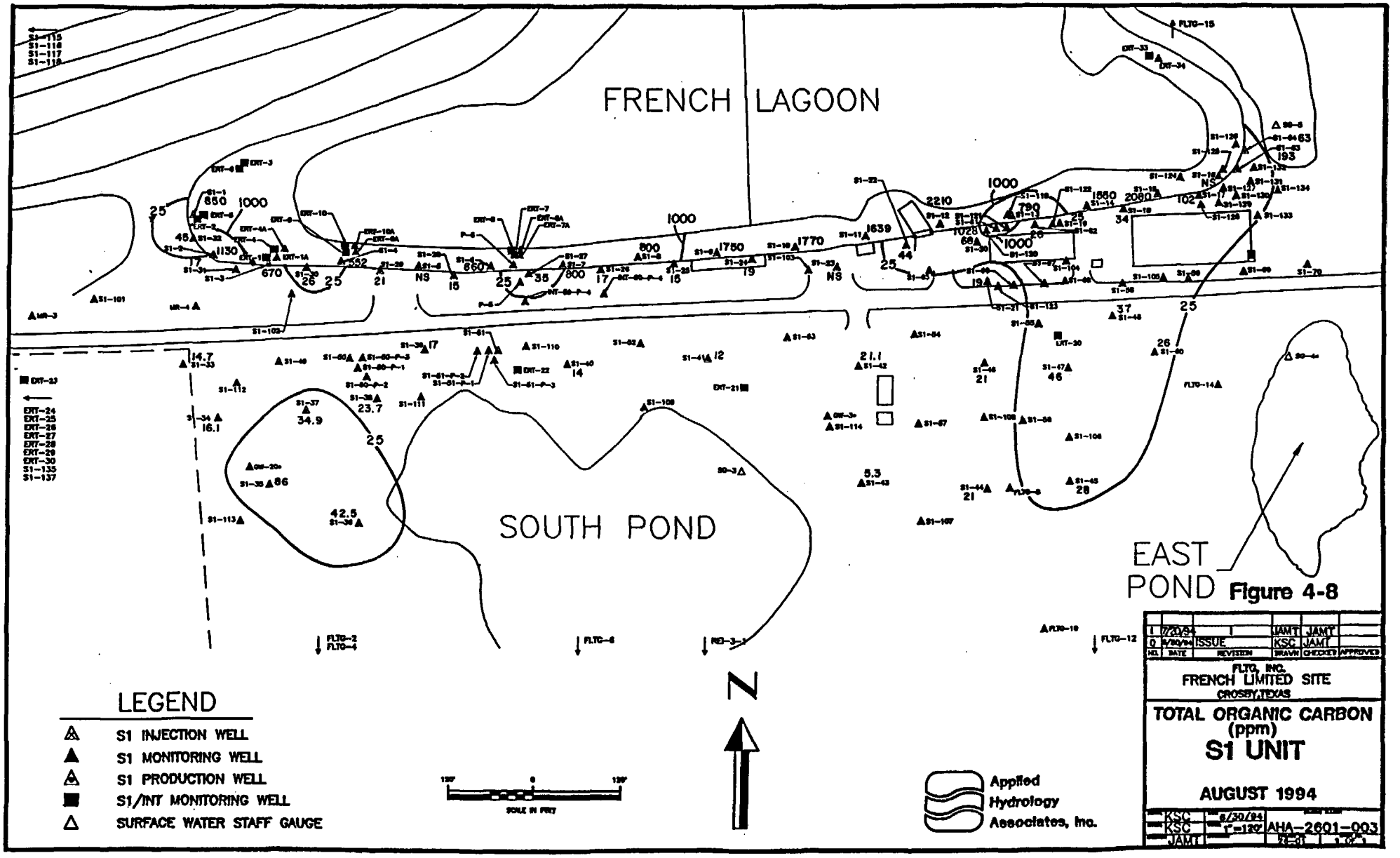


Figure 4-8

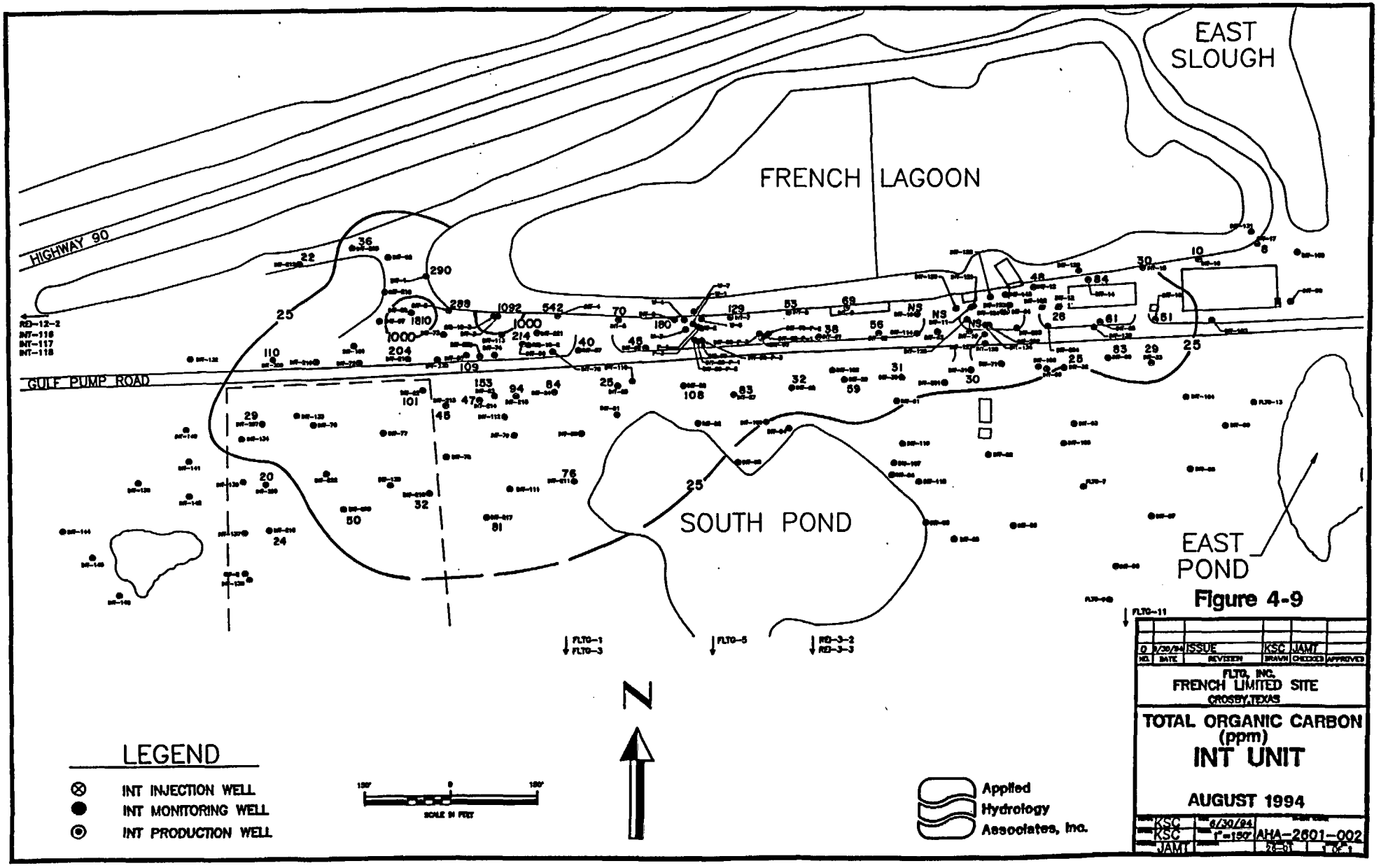

EAST SLOUGH
FRENCH LAGOON
HIGHWAY 90
GULF PUMP ROAD
SOUTH POND
EAST POND
LEGEND
INT INJECTION WELL
INT MONITORING WELL
INT PRODUCTION WELL
N
SCALE IN FEET
Applied Hydrology Associates, Inc.
FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS
TOTAL ORGANIC CARBON (ppm)
INT UNIT
AUGUST 1994
AHA-2601-002

Figure 4-9

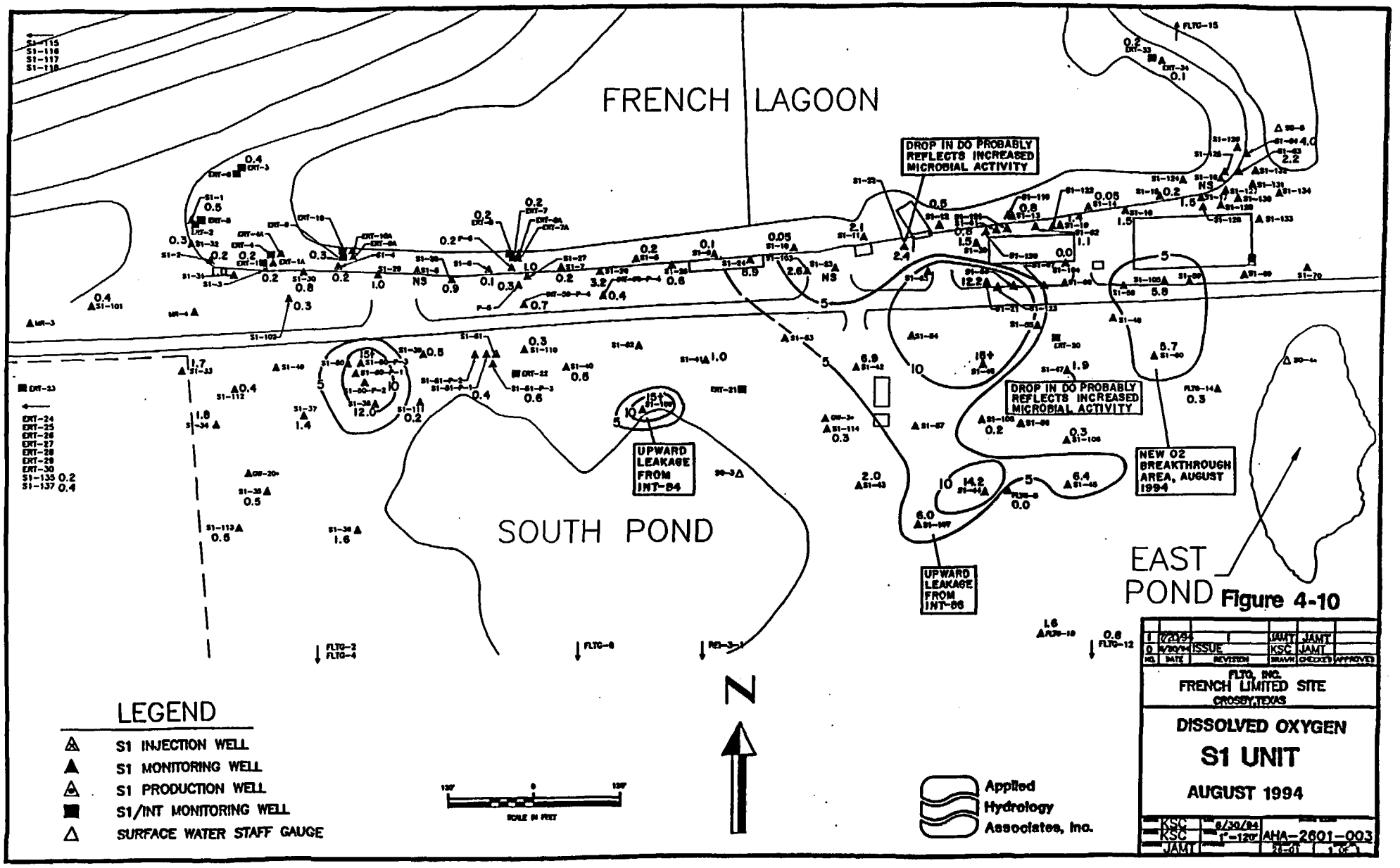

FRENCH LAGOON
SOUTH POND
EAST POND
DROP IN DO PROBABLY REFLECTS INCREASED MICROBIAL ACTIVITY
DROP IN DO PROBABLY REFLECTS INCREASED MICROBIAL ACTIVITY
UPWARD LEAKAGE FROM INT-84
UPWARD LEAKAGE FROM INT-86
NEW O2 BREAKTHROUGH AREA, AUGUST 1994
LEGEND
S1 INJECTION WELL
S1 MONITORING WELL
S1 PRODUCTION WELL
S1/INT MONITORING WELL
SURFACE WATER STAFF GAUGE
N
Applied Hydrology Associates, Inc.
FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS
DISSOLVED OXYGEN
S1 UNIT
AUGUST 1994
AHA-2601-003

Figure 4-10

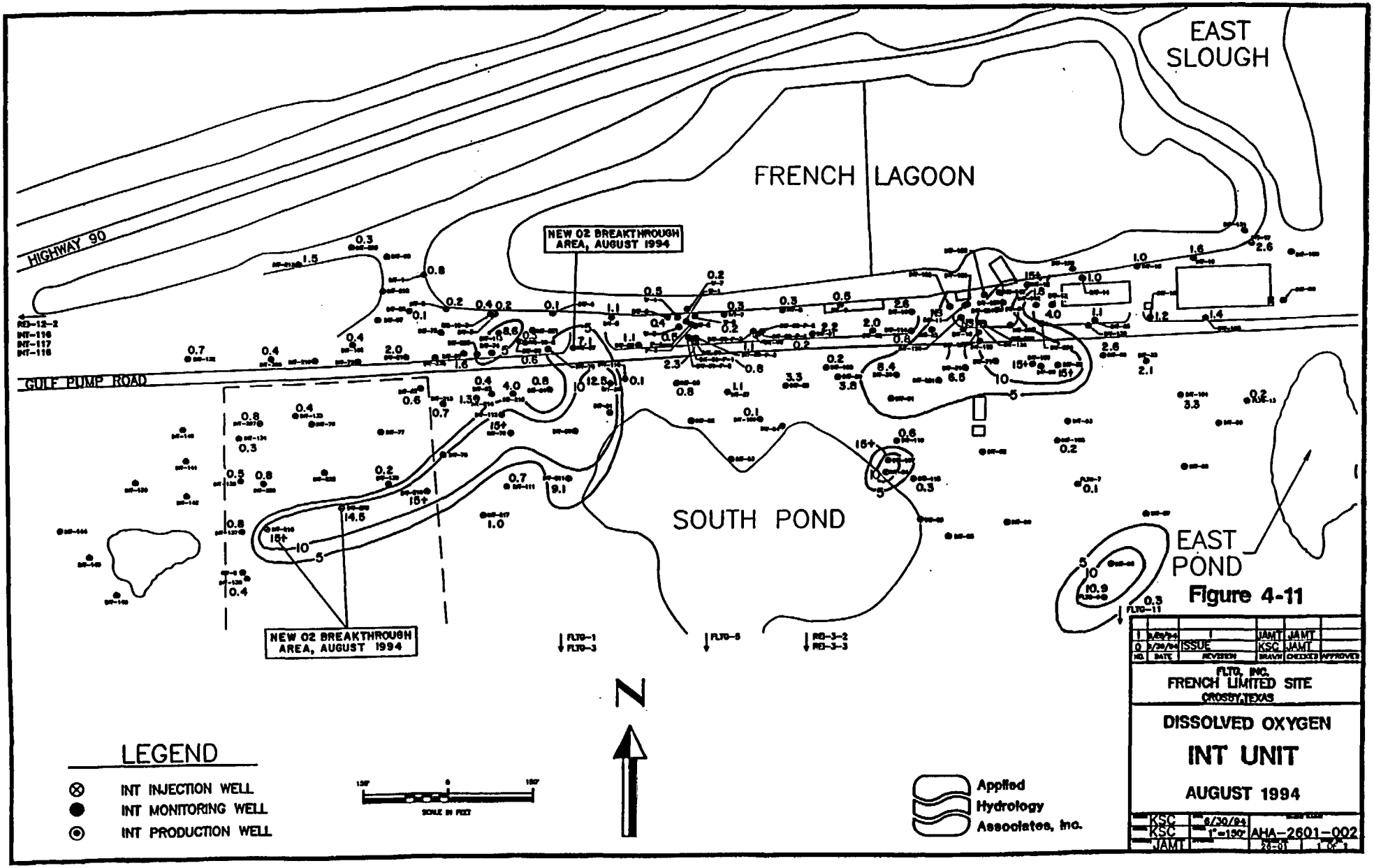

EAST SLOUGH
FRENCH LAGOON
HIGHWAY 90
GULF PUMP ROAD
NEW 02 BREAKTHROUGH AREA, AUGUST 1994
NEW 02 BREAKTHROUGH AREA, AUGUST 1994
SOUTH POND
EAST POND
LEGEND
INT INJECTION WELL
INT MONITORING WELL
INT PRODUCTION WELL
N
Applied Hydrology Associates, Inc.
FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS
DISSOLVED OXYGEN
INT UNIT
AUGUST 1994
AHA-2601-002

Figure 4-11

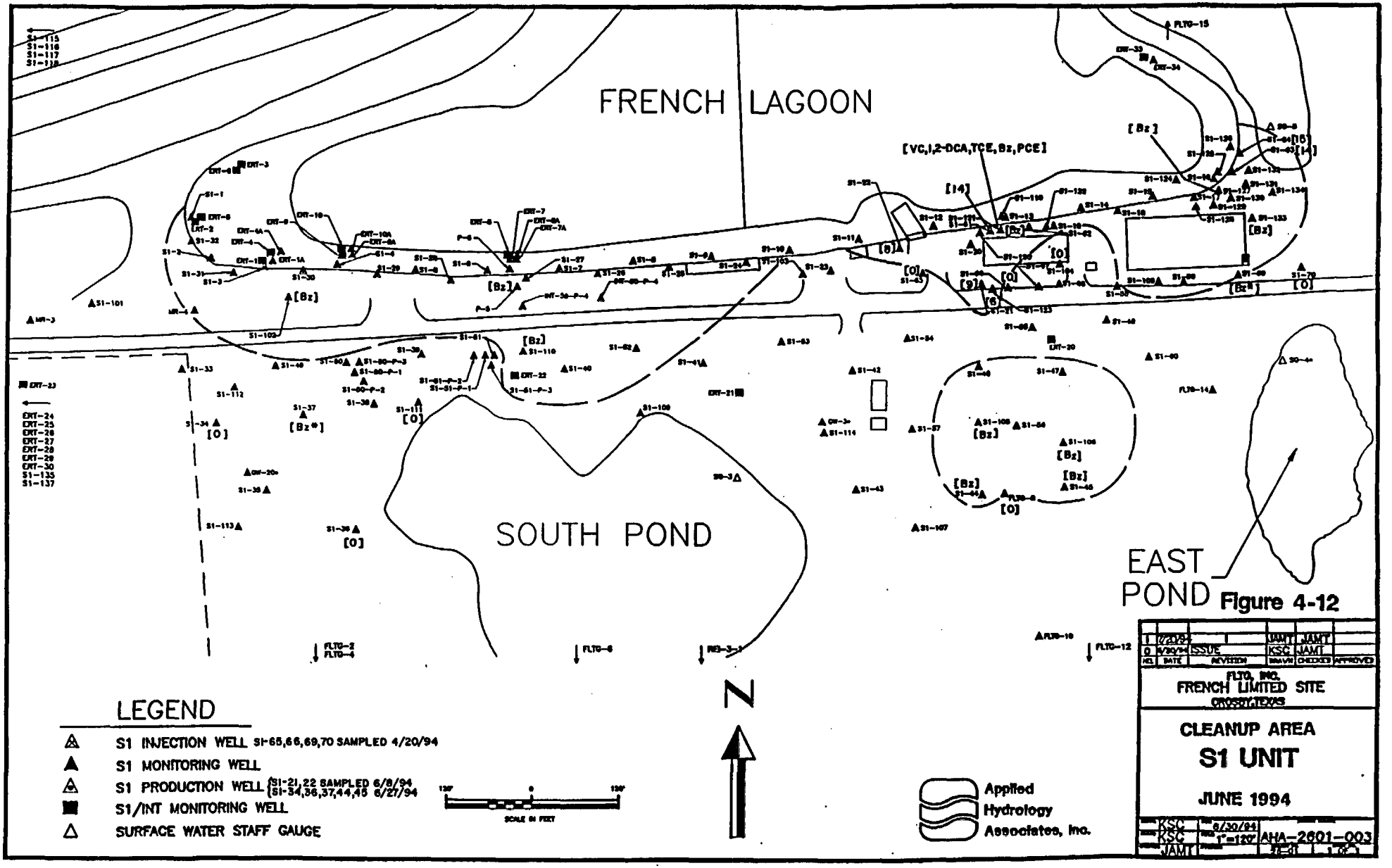

FRENCH LAGOON
SOUTH POND
EAST POND
[VC,1,2-DCA,TCE,Bz,PCE]
[Bz]
[14]
[0]
[9]
[6]
[Bz*]
LEGEND
S1 INJECTION WELL SI-65,66,69,70 SAMPLED 4/20/94
S1 MONITORING WELL
S1 PRODUCTION WELL (SI-21,22 SAMPLED 6/8/94 (SI-34,36,37,44,45 6/27/94
S1/INT MONITORING WELL
SURFACE WATER STAFF GAUGE
SCALE IN FEET
N
Applied Hydrology Associates, Inc.
FLTG, INC.
FRENCH LIMITED SITE
CROSBY, TEXAS
CLEANUP AREA
S1 UNIT
JUNE 1994
AHA-2601-003

Figure 4-12

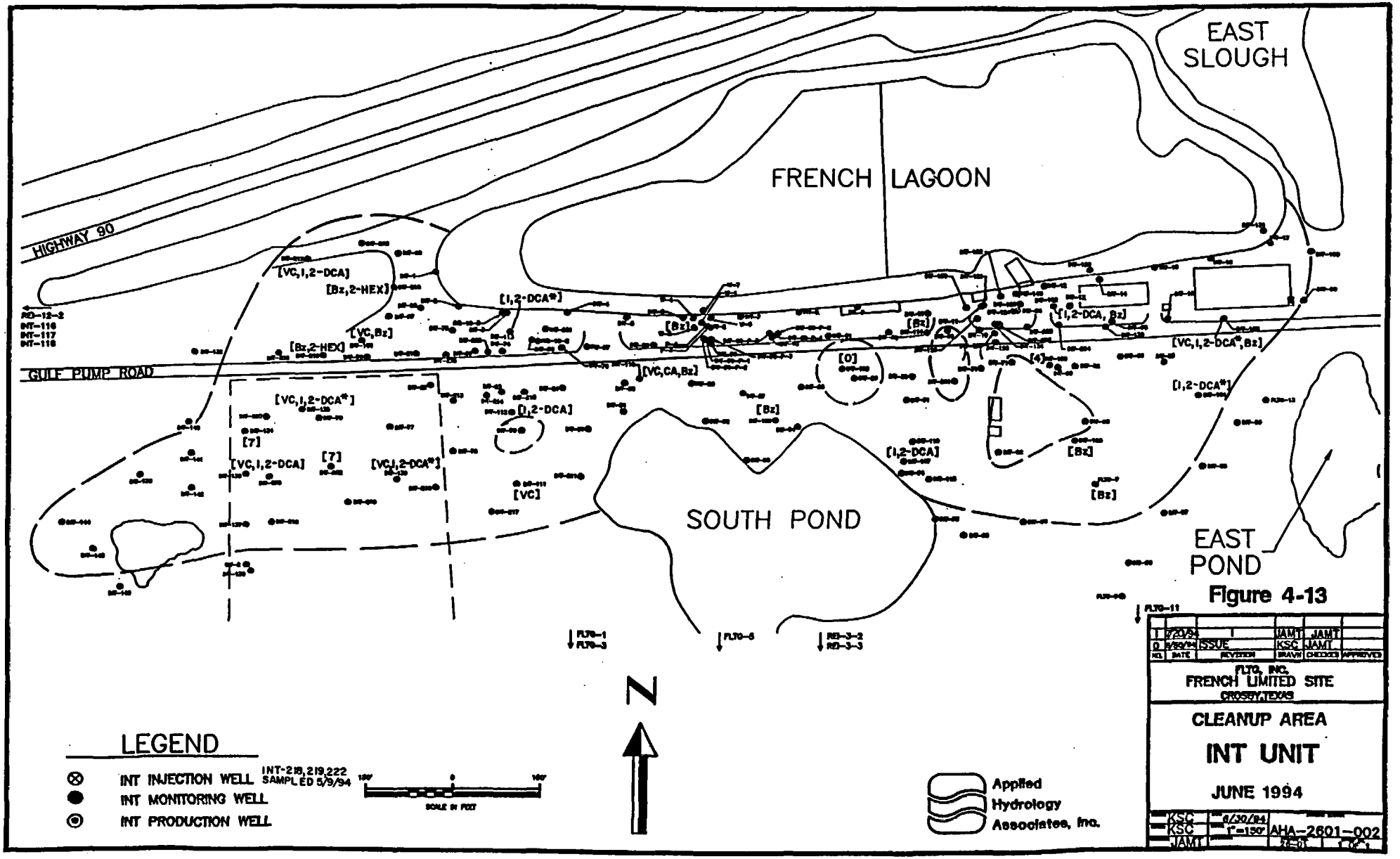


Figure 4-13

ATTACHMENT 4A

Sample Results from Pulse Pumped Wells

Results of Bounce Back Test - S1 Unit

Well	Date			
	September 93	October 93	November 93	Comment
ERT-21	All ND	All ND Bz<0.3	Bz 5/5	
S1-50-P2	All ND	BZ 6/5	All ND	
S1-107	Bz 13/5 (previously <5)	All ND	All ND	
S1-111	Bz 71/5	Bz 32/5	Bz 16/5	
S1-112	All ND	All ND	All ND	
S1-113	All ND	All ND or <criteria Bz 3/5	Bz 5/5	
S1-114	All ND or <criteria	All ND or <criteria	All ND	
S1-33 (off 10/7)	NS	VC 29/2 1,1-DCA 5/5 1,2-DCE 4/100 Chl <5 1,2-DCA 13/5 1,2-DCPA <5 Bz 14/5	VC 450/2 1,1-DCA 100/5 1,2-DCE 150/100 Chl 5/5 1,2-DCA 100/5 1,2-DCPA 7/5 Bz 30/5	Probable bounceback
S1-34	NS	VC <10 1,1-DCA <5 1,2-DCE <5 1,2-DCA <5 Bz 15/5	VC 96/2 1,1-DCA 32/5 1,2-DCE 16/100 1,2-DCA 46/5 Bz 13/5	Probable bounceback
S1-35	NS	Bz 5/5	Bz 6/5	
S1-36	NS	Bz 5/5	All ND at DL=10x	
S1-37	NS	VC <10 1,1-DCA <5 1,2-DCE <5 1,2-DCA <5 Bz 13/5	VC 470/2 1,1-DCA 130/5 1,2-DCE 120/100 1,2-DCA 120/5 Bz 59/5	Probable bounceback
S1-38	NS	All ND	NS	
S1-43	NS	All ND or <criteria	All ND	

Notes:

All production wells (except S1-33) turned off 9/1/93
VOC concentrations ND or < criteria unless otherwise noted
NS: not sampled
ND: not detected
Data presented thus: Bz 59/5 (i.e., concentration 59 ug/L, criteria 5 ug/L)
Bz - benzene
Chl - chloroform
1,1-DCA - 1,1-dichloroethane
1,2-DCA - 1,2-dichloroethane
1,2-DCE - 1,2-dichlorethene
1,2-DCPA - 1,2-dichoropropane
VC - vinyl chloride

Samp Num: S14L001501 Date Coll: 2/14/94 Samp Name: S1-033

Compound		Amount	Units
1,1,1-Trichloroethane	<	.5	UG/L
1,1,2,2-Tetrachloroethane	<	2.4	UG/L
1,1,2-Trichloroethane	<	.5	UG/L
1,1-Dichloroethane	<	.6	UG/L
1,1-Dichloroethene	<	.4	UG/L
1,2-Dichloroethane	<	.8	UG/L
1,2-Dichloroethene(Total)	<	2.7	UG/L
1,2-Dichloropropane	<	.5	UG/L
2-Butanone	<	3.5	UG/L
2-Chlorethylvinyl ether	<	10.0	UG/L
2-Hexanone	<	4.2	UG/L
4-Methyl-2-Pentanone	<	5.0	UG/L
Acetone	<	6.0	UG/L
Benzene		1.0	UG/L
Bromodichloromethane	<	5.0	UG/L
Bromoform	<	5.0	UG/L
Bromomethane	<	10.0	UG/L
Carbon Tetrachloride	<	.5	UG/L
Carbon disulfide	<	1.6	UG/L
Chlorobenzene	<	.7	UG/L
Chloroethane	<	1.4	UG/L
Chloroform	<	.6	UG/L
Chloromethane	<	10.0	UG/L
Dibromochloromethane	<	5.0	UG/L
Dichloromethane	<	.7	UG/L
Ethylbenzene		7.0	UG/L
Styrene	<	2.5	UG/L
Tetrachloroethene	<	.5	UG/L
Toluene	<	.5	UG/L
Trichloroethene	<	.4	UG/L
Vinyl Acetate	<	9.0	UG/L
Vinyl Chloride	<	1.2	UG/L
Xylene (total)		3.0	UG/L
cis-1,3-Dichloropropene	<	.4	UG/L
trans-1,3-Dichloropropene	<	5.0	UG/L

Samp Num: S14L001502 Date Coll: 2/14/94 Samp Name: S1-034

Compound		Amount	Units
1,1,1-Trichloroethane	<	.5	UG/L
1,1,2,2-Tetrachloroethane	<	2.4	UG/L
1,1,2-Trichloroethane	<	.5	UG/L
1,1-Dichloroethane	<	.6	UG/L
1,1-Dichloroethene	<	.4	UG/L
1,2-Dichloroethane	<	.8	UG/L
1,2-Dichloroethene(Total)	<	2.7	UG/L
1,2-Dichloropropane	<	.5	UG/L
2-Butanone	<	3.5	UG/L
2-Chlorethylvinyl ether	<	10.0	UG/L
2-Hexanone	<	4.2	UG/L
4-Methyl-2-Pentanone	<	5.0	UG/L
Acetone	<	6.0	UG/L
Benzene		2.0	UG/L
Bromodichloromethane	<	5.0	UG/L
Bromoform	<	5.0	UG/L
Bromomethane	<	10.0	UG/L
Carbon Tetrachloride	<	.5	UG/L
Carbon disulfide	<	1.6	UG/L
Chlorobenzene		1.0	UG/L
Chloroethane	<	1.4	UG/L
Chloroform	<	.6	UG/L
Chloromethane	<	10.0	UG/L
Dibromochloromethane	<	5.0	UG/L
Dichloromethane	<	.7	UG/L
Ethylbenzene	<	.7	UG/L
Styrene	<	2.5	UG/L
Tetrachloroethene	<	.5	UG/L
Toluene	<	.5	UG/L
Trichloroethene	<	.4	UG/L
Vinyl Acetate	<	9.0	UG/L
Vinyl Chloride	<	1.2	UG/L
Xylene (total)	<	3.0	UG/L
cis-1,3-Dichloropropene	<	.4	UG/L
trans-1,3-Dichloropropene	<	5.0	UG/L

Samp Num: S14L001503 Date Coll: 2/14/94 Samp Name: S1-036

Compound		Amount	Units
1,1,1-Trichloroethane	<	.5	UG/L
1,1,2,2-Tetrachloroethane	<	2.4	UG/L
1,1,2-Trichloroethane	<	.5	UG/L
1,1-Dichloroethane	<	.6	UG/L
1,1-Dichloroethene	<	.4	UG/L
1,2-Dichloroethane	<	.8	UG/L
1,2-Dichloroethene(Total)	<	2.7	UG/L
1,2-Dichloropropane	<	.5	UG/L
2-Butanone	<	3.5	UG/L
2-Chlorethylvinyl ether	<	10.0	UG/L
2-Hexanone	<	4.2	UG/L
4-Methyl-2-Pentanone	<	5.0	UG/L
Acetone	<	6.0	UG/L
Benzene		4.0	UG/L
Bromodichloromethane	<	5.0	UG/L
Bromoform	<	5.0	UG/L
Bromomethane	<	10.0	UG/L
Carbon Tetrachloride	<	.5	UG/L
Carbon disulfide	<	1.6	UG/L
Chlorobenzene	<	.7	UG/L
Chloroethane	<	1.4	UG/L
Chloroform	<	.6	UG/L
Chloromethane	<	10.0	UG/L
Dibromochloromethane	<	5.0	UG/L
Dichloromethane	<	.7	UG/L
Ethylbenzene	<	.7	UG/L
Styrene	<	2.5	UG/L
Tetrachloroethene	<	.5	UG/L
Toluene	<	.5	UG/L
Trichloroethene	<	.4	UG/L
Vinyl Acetate	<	9.0	UG/L
Vinyl Chloride	<	1.2	UG/L
Xylene (total)		1.0	UG/L
cis-1,3-Dichloropropene	<	.4	UG/L
trans-1,3-Dichloropropene	<	5.0	UG/L

Samp Num: S14L001504 Date Coll: 2/14/94 Samp Name: S1-037

Compound		Amount	Units
1,1,1-Trichloroethane	<	.5	UG/L
1,1,2,2-Tetrachloroethane	<	2.4	UG/L
1,1,2-Trichloroethane	<	.5	UG/L
1,1-Dichloroethane	<	.6	UG/L
1,1-Dichloroethene	<	.4	UG/L
1,2-Dichloroethane	<	.8	UG/L
1,2-Dichloroethene(Total)	<	2.7	UG/L
1,2-Dichloropropane	<	.5	UG/L
2-Butanone	<	3.5	UG/L
2-Chlorethylvinyl ether	<	10.0	UG/L
2-Hexanone	<	4.2	UG/L
4-Methyl-2-Pentanone	<	5.0	UG/L
Acetone		6.0	UG/L
Benzene	<	.3	UG/L
Bromodichloromethane	<	5.0	UG/L
Bromoform	<	5.0	UG/L
Bromomethane	<	10.0	UG/L
Carbon Tetrachloride	<	.5	UG/L
Carbon disulfide	<	1.6	UG/L
Chlorobenzene	<	.7	UG/L
Chloroethane	<	1.4	UG/L
Chloroform	<	.6	UG/L
Chloromethane	<	10.0	UG/L
Dibromochloromethane	<	5.0	UG/L
Dichloromethane	<	.7	UG/L
Ethylbenzene	<	.7	UG/L
Styrene	<	2.5	UG/L
Tetrachloroethene	<	.5	UG/L
Toluene	<	.5	UG/L
Trichloroethene	<	.4	UG/L
Vinyl Acetate	<	9.0	UG/L
Vinyl Chloride	<	1.2	UG/L
Xylene (total)	<	3.0	UG/L
cis-1,3-Dichloropropene	<	.4	UG/L
trans-1,3-Dichloropropene	<	5.0	UG/L

Samp Num: S14L001601 Date Coll: 2/21/94 Samp Name: S1-023

Compound		Amount	Units
1,1,1-Trichloroethane	<	.5	UG/L
1,1,2,2-Tetrachloroethane	<	2.4	UG/L
1,1,2-Trichloroethane	<	.5	UG/L
1,1-Dichloroethane	<	.6	UG/L
1,1-Dichloroethene	<	.4	UG/L
1,2-Dichloroethane	<	.8	UG/L
1,2-Dichloroethene(Total)	<	2.7	UG/L
1,2-Dichloropropane	<	.5	UG/L
2-Butanone	<	3.5	UG/L
2-Chlorethylvinyl ether	<	10.0	UG/L
2-Hexanone	<	4.2	UG/L
4-Methyl-2-Pentanone	<	5.0	UG/L
Acetone	<	6.0	UG/L
Benzene	<	.3	UG/L
Bromodichloromethane	<	5.0	UG/L
Bromoform	<	5.0	UG/L
Bromomethane	<	10.0	UG/L
Carbon Tetrachloride	<	.5	UG/L
Carbon disulfide	<	1.6	UG/L
Chlorobenzene	<	.7	UG/L
Chloroethane	<	1.4	UG/L
Chloroform		2.0	UG/L
Chloromethane	<	10.0	UG/L
Dibromochloromethane	<	5.0	UG/L
Dichloromethane	<	.7	UG/L
Ethylbenzene	<	.7	UG/L
Styrene	<	2.5	UG/L
Tetrachloroethene	<	.5	UG/L
Toluene	<	.5	UG/L
Trichloroethene	<	.4	UG/L
Vinyl Acetate	<	9.0	UG/L
Vinyl Chloride	<	1.2	UG/L
Xylene (total)	<	3.0	UG/L
cis-1,3-Dichloropropene	<	.4	UG/L
trans-1,3-Dichloropropene	<	5.0	UG/L

Samp Num: S14L001602 Date Coll: 2/21/94 Samp Name: S1-042

Compound		Amount	Units
1,1,1-Trichloroethane	<	.5	UG/L
1,1,2,2-Tetrachloroethane	<	2.4	UG/L
1,1,2-Trichloroethane	<	.5	UG/L
1,1-Dichloroethane	<	.6	UG/L
1,1-Dichloroethene	<	.4	UG/L
1,2-Dichloroethane	<	.8	UG/L
1,2-Dichloroethene(Total)	<	2.7	UG/L
1,2-Dichloropropane	<	.5	UG/L
2-Butanone	<	3.5	UG/L
2-Chlorethylvinyl ether	<	10.0	UG/L
2-Hexanone	<	4.2	UG/L
4-Methyl-2-Pentanone	<	5.0	UG/L
Acetone	<	6.0	UG/L
Benzene	<	.3	UG/L
Bromodichloromethane	<	5.0	UG/L
Bromoform	<	5.0	UG/L
Bromomethane	<	10.0	UG/L
Carbon Tetrachloride	<	.5	UG/L
Carbon disulfide	<	1.6	UG/L
Chlorobenzene	<	.7	UG/L
Chloroethane	<	1.4	UG/L
Chloroform	<	.6	UG/L
Chloromethane	<	10.0	UG/L
Dibromochloromethane	<	5.0	UG/L
Dichloromethane	<	.7	UG/L
Ethylbenzene	<	.7	UG/L
Styrene	<	2.5	UG/L
Tetrachloroethene	<	.5	UG/L
Toluene	<	.5	UG/L
Trichloroethene	<	.4	UG/L
Vinyl Acetate	<	9.0	UG/L
Vinyl Chloride	<	1.2	UG/L
Xylene (total)	<	3.0	UG/L
cis-1,3-Dichloropropene	<	.4	UG/L
trans-1,3-Dichloropropene	<	5.0	UG/L

French Ltd. Project

4/11/94 Volatile Organics Analysis Data Sheet

Samp Num: S14L001603 Date Coll: 2/21/94 Samp Name: S1-038

Compound		Amount	Units
1,1,1-Trichloroethane	<	.5	UG/L
1,1,2,2-Tetrachloroethane	<	2.4	UG/L
1,1,2-Trichloroethane	<	.5	UG/L
1,1-Dichloroethane	<	.6	UG/L
1,1-Dichloroethene	<	.4	UG/L
1,2-Dichloroethane	<	.8	UG/L
1,2-Dichloroethene(Total)	<	2.7	UG/L
1,2-Dichloropropane	<	.5	UG/L
2-Butanone	<	3.5	UG/L
2-Chlorethylvinyl ether	<	10.0	UG/L
2-Hexanone	<	4.2	UG/L
4-Methyl-2-Pentanone	<	5.0	UG/L
Acetone	<	6.0	UG/L
Benzene	<	.3	UG/L
Bromodichloromethane	<	5.0	UG/L
Bromoform	<	5.0	UG/L
Bromomethane	<	10.0	UG/L
Carbon Tetrachloride	<	.5	UG/L
Carbon disulfide	<	1.6	UG/L
Chlorobenzene	<	.7	UG/L
Chloroethane	<	1.4	UG/L
Chloroform	<	.6	UG/L
Chloromethane	<	10.0	UG/L
Dibromochloromethane	<	5.0	UG/L
Dichloromethane	<	.7	UG/L
Ethylbenzene	<	.7	UG/L
Styrene	<	2.5	UG/L
Tetrachloroethene	<	.5	UG/L
Toluene	<	.5	UG/L
Trichloroethene	<	.4	UG/L
Vinyl Acetate	<	9.0	UG/L
Vinyl Chloride	<	1.2	UG/L
Xylene (total)	<	3.0	UG/L
cis-1,3-Dichloropropene	<	.4	UG/L
trans-1,3-Dichloropropene	<	5.0	UG/L

Time Printed: 8:05 am
Date Printed: 3/14/94
User: Ron
Page 1

054206 Analysis Request and Chain of Custody Record No.: 1827

PULSE PUMPING RESULTS

FRENCH LTD. PROJECT	REPORTING LABORATORY
FLTG, Incorporated 15010 FM 2100, Suite 200 Crosby, Texas 77532 (713) 328-5860 Fax: (713) 328-2996	Name: Keystone Lab-Houston Address: 8300 Westpark Drive Houston, TX 77063 Contact: Dan Pastalaniec Phone: (713) 266-6800 Fax: (713) 974-5491 FILE 26-4-14-1
DATA PACKAGE TO: FLTG, INCORPORATED 1024 GULF PUMP ROAD CROSBY, TX 77532	Requested By: Jim Thompson Standard TA?: Y Days: 14

FLTG MATRIX CODE: S14L
FLTG SET NUMBER: S14L0017
Quality Control Level: I
Site Location: 1024 Gulf Pump Road
Crosby, TX 77532

FLTG Sample No.	Date	Time	Location	Grab/ Comp	Matrix	Type
S14L001701	3/14/94	0915	S1-033	Grab	Water	ENV1
S14L001702	3/14/94	0915	S1-034	Grab	Water	ENV1
S14L001703	3/14/94	0915	S1-036	Grab	Water	ENV1
S14L001704	3/14/94	0915	S1-037	Grab	Water	ENV1

SAMPLER'S Name(s) (PRINT!)	Affiliation:
1. SHELDON TAPHAM 2. --- 3. ---	Sampling Team
Carrier:	Bill No.:

RELINQUISHED BY: (SIGN) (INITIALS) Date Time	RECEIVED BY: (SIGN) (INITIALS) Date Time
1. S Tph 2.	Ron Bosquez 3-14-94 10:2
RETURNED BY: (SIGN) (INITIALS) Date Time	DISPOSED BY: (SIGN) (INITIALS) Date Time
1. 2.	

NOTES TO LAB:

Chester LabNet-Houston
Lab ID # H44.03.116
Iced Yes
pH —
Temperature 4°C
Date 3/14/94
Initials R.

White - Original, Yellow - Set Data Package, Pink - FLTG, Orange - Sampler)

054207

KEYSTONE DC # ——— 8

INST ID: 4000 SAMPLE NUMBER: S14L001701

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME: CHESTER LABNET
LAB SAMPLE ID NO.: 940311602
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY:..... DATE SAMPLE RECEIVED: 03/14/94

VOLATILES

CONCENTRATION: LOW DATAFILE: 4U03116V02
DATE ANALYZED: 03/21/94 DILUTION FACTOR: 1.00

	COMPOUND	DETECTION LIMIT (MICROGRAMS / LITER)	AMOUNT FOUND
C010	CHLOROMETHANE	10 U	
C015	BROMOMETHANE	10 U	
C020	VINYL CHLORIDE	10 U	
C025	CHLOROETHANE	10 U	
C030	METHYLENE CHLORIDE	5 U	
C035	ACETONE	10 U	
C040	CARBON DISULFIDE	5 U	
C045	1,1-DICHLOROETHENE	5 U	
C050	1,1-DICHLOROETHANE	5 U	
C053	1,2-DICHLOROETHENE (TOTAL)	5 U	
C060	CHLOROFORM	5 U	
C065	1,2-DICHLOROETHANE	5 U	
C110	2-BUTANONE	10 U	
C115	1,1,1-TRICHLOROETHANE	5 U	
C120	CARBON TETRACHLORIDE	5 U	
C125	VINYL ACETATE	10 U	
C130	BROMODICHLOROMETHANE	5 U	
C140	1,2-DICHLOROPROPANE	5 U	
C143	CIS-1,3-DICHLOROPROPENE	5 U	
C150	TRICHLOROETHENE	5 U	
C155	DIBROMOCHLOROMETHANE	5 U	
C160	1,1,2-TRICHLOROETHANE	5 U	
C165	BENZENE	5 U	
C172	TRANS-1,3-DICHLOROPROPENE	5 U	
C180	BROMOFORM	5 U	
C205	4-METHYL-2-PENTANONE	10 U	
C210	2-HEXANONE	10 U	
C220	TETRACHLOROETHENE	5 U	
C225	1,1,2,2-TETRACHLOROETHANE	5 U	
C230	TOLUENE	5 U	
C235	CHLOROBENZENE	5 U	
C240	ETHYLBENZENE	5 U	
C245	STYRENE	5 U	
C250	XYLENES (TOTAL)	5 U	

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

054208

KEYSTONE DC # ------ 8

INST ID: 4000 SAMPLE NUMBER: S14L001702

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME: CHESTER LABNET
LAB SAMPLE ID NO.: 940311605
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ..... DATE SAMPLE RECEIVED: 03/14/94

VOLATILES

CONCENTRATION: LOW DATAFILE: 4U03116V05R
DATE ANALYZED: 03/24/94 DILUTION FACTOR: 1.00

	COMPOUND	DETECTION LIMIT (MICROGRAMS / LITER)	AMOUNT FOUND
C010	CHLOROMETHANE	10 U	
C015	BROMOMETHANE	10 U	
C020	VINYL CHLORIDE	10 U	
C025	CHLOROETHANE	10 U	
C030	METHYLENE CHLORIDE	5 U	
C035	ACETONE	10 U	
C040	CARBON DISULFIDE	5 U	
C045	1,1-DICHLOROETHENE	5 U	
C050	1,1-DICHLOROETHANE	5 U	
C053	1,2-DICHLOROETHENE (TOTAL)	5 U	
C060	CHLOROFORM	5 U	
C065	1,2-DICHLOROETHANE	5 U	
C110	2-BUTANONE	10 U	
C115	1,1,1-TRICHLOROETHANE	5 U	
C120	CARBON TETRACHLORIDE	5 U	
C125	VINYL ACETATE	10 U	
C130	BROMODICHLOROMETHANE	5 U	
C140	1,2-DICHLOROPROPANE	5 U	
C143	CIS-1,3-DICHLOROPROPENE	5 U	
C150	TRICHLOROETHENE	5 U	
C155	DIBROMOCHLOROMETHANE	5 U	
C160	1,1,2-TRICHLOROETHANE	5 U	
C165	BENZENE	5 U	
C172	TRANS-1,3-DICHLOROPROPENE	5 U	
C180	BROMOFORM	5 U	
C205	4-METHYL-2-PENTANONE	10 U	
C210	2-HEXANONE	10 U	
C220	TETRACHLOROETHENE	5 U	
C225	1,1,2,2-TETRACHLOROETHANE	5 U	
C230	TOLUENE	5 U	
C235	CHLOROBENZENE	5	2 J
C240	ETHYLBENZENE	5 U	
C245	STYRENE	5 U	
C250	XYLENES (TOTAL)	5 U	

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

054209

KEYSTONE DC # ------ B

INST ID: 4000 SAMPLE NUMBER: S14L001703

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME: CHESTER LABNET
LAB SAMPLE ID NO.: 940311606
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: DATE SAMPLE RECEIVED: 03/14/94

VOLATILES

CONCENTRATION: LOW DATAFILE: 4U03116V06R
DATE ANALYZED: 03/24/94 DILUTION FACTOR: 1.00

	COMPOUND	DETECTION LIMIT (MICROGRAMS / LITER)	AMOUNT FOUND
C010	CHLOROMETHANE	10 U	
C015	BROMOMETHANE	10 U	
C020	VINYL CHLORIDE	10 U	
C025	CHLOROETHANE	10 U	
C030	METHYLENE CHLORIDE	5 U	
C035	ACETONE	10 U	
C040	CARBON DISULFIDE	5 U	
C045	1,1-DICHLOROETHENE	5 U	
C050	1,1-DICHLOROETHANE	5 U	
C053	1,2-DICHLOROETHENE (TOTAL)	5 U	
C060	CHLOROFORM	5 U	
C065	1,2-DICHLOROETHANE	5 U	
C110	2-BUTANONE	10 U	
C115	1,1,1-TRICHLOROETHANE	5 U	
C120	CARBON TETRACHLORIDE	5 U	
C125	VINYL ACETATE	10 U	
C130	BROMODICHLOROMETHANE	5 U	
C140	1,2-DICHLOROPROPANE	5 U	
C143	CIS-1,3-DICHLOROPROPENE	5 U	
C150	TRICHLOROETHENE	5 U	
C155	DIBROMOCHLOROMETHANE	5 U	
C160	1,1,2-TRICHLOROETHANE	5 U	
C165	BENZENE	5	4 J
C172	TRANS-1,3-DICHLOROPROPENE	5 U	
C180	BROMOFORM	5 U	
C205	4-METHYL-2-PENTANONE	10 U	
C210	2-HEXANONE	10 U	
C220	TETRACHLOROETHENE	5 U	
C225	1,1,2,2-TETRACHLOROETHANE	5 U	
C230	TOLUENE	5 U	
C235	CHLOROBENZENE	5 U	
C240	ETHYLBENZENE	5 U	
C245	STYRENE	5 U	
C250	XYLENES (TOTAL)	5 U	

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

054210

KEYSTONE DC # ------ 6

INST ID: 4000 SAMPLE NUMBER: S14L001704

ORGANICS ANALYSIS DATA SHEET

LABORATORY NAME: CHESTER LABNET
LAB SAMPLE ID NO.: 940311607
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: DATE SAMPLE RECEIVED: 03/14/94

VOLATILES

CONCENTRATION: LOW DATAFILE: 4U03116V07R
DATE ANALYZED: 03/24/94 DILUTION FACTOR: 1.00

	COMPOUND	DETECTION LIMIT (MICROGRAMS / LITER)	AMOUNT FOUND
C010	CHLOROMETHANE	10 U	
C015	BROMOMETHANE	10 U	
C020	VINYL CHLORIDE	10 U	
C025	CHLOROETHANE	10 U	
C030	METHYLENE CHLORIDE	5 U	
C035	ACETONE	10 U	
C040	CARBON DISULFIDE	5 U	
C045	1,1-DICHLOROETHENE	5 U	
C050	1,1-DICHLOROETHANE	5 U	
C053	1,2-DICHLOROETHENE (TOTAL)	5 U	
C060	CHLOROFORM	5 U	
C065	1,2-DICHLOROETHANE	5 U	
C110	2-BUTANONE	10 U	
C115	1,1,1-TRICHLOROETHANE	5 U	
C120	CARBON TETRACHLORIDE	5 U	
C125	VINYL ACETATE	10 U	
C130	BROMODICHLOROMETHANE	5 U	
C140	1,2-DICHLOROPROPANE	5 U	
C143	CIS-1,3-DICHLOROPROPENE	5 U	
C150	TRICHLOROETHENE	5 U	
C155	DIBROMOCHLOROMETHANE	5 U	
C160	1,1,2-TRICHLOROETHANE	5 U	
C165	BENZENE	5	5 J
C172	TRANS-1,3-DICHLOROPROPENE	5 U	
C180	BROMOFORM	5 U	
C205	4-METHYL-2-PENTANONE	10 U	
C210	2-HEXANONE	10 U	
C220	TETRACHLOROETHENE	5 U	
C225	1,1,2,2-TETRACHLOROETHANE	5 U	
C230	TOLUENE	5 U	
C235	CHLOROBENZENE	5	2 J
C240	ETHYLBENZENE	5 U	
C245	STYRENE	5 U	
C250	XYLENES (TOTAL)	5 U	

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

11946.11

Time Printed: 1:19 pm
Date Printed: 3/28/94

User: Ron
Page 1

Analysis Request and Chain of Custody Record No.: 1841

BOUNCEBACK/PD

FRENCH LTD. PROJECT	REPORTING LABORATORY
FLTG, Incorporated 15010 FM 2100, Suite 200 Crosby, Texas 77532 (713) 328-5860 Fax: (713) 328-2996	Name: Keystone Lab-Houston Address: 8300 Westpark Drive Houston, TX 77063 Contact: Dan Pastalaniec Phone: (713) 266-6800 Fax: (713) 974-5491 FILE 25-4-14-1
DATA PACKAGE TO: FLTG, INCORPORATED 1024 GULF PUMP ROAD CROSBY, TX 77532	Requested By: Jim Thompson Standard TA?: Y Days: 14

FLTG MATRIX CODE: S14L
FLTG SET NUMBER: S14L0018
Quality Control Level: I
Site Location: 1024 Gulf Pump Road
Crosby, TX 77532

FLTG Sample No.	Date	Time	Location	Grab/ Comp	Matrix	Type
S14L001801	3/28/94	0830	S1-023	Grab	Water	ENV1
S14L001802	3/28/94	1115	S1-038	Grab	Water	ENV1
S14L001803	3/28/94	1135	S1-042	Grab	Water	ENV1

SAMPLER'S Name(s) (PRINT!)	Affiliation:
1. Ronald Reinhardt 2. 3.	Sampling Team
Carrier:	Bill No.:

RELINQUISHED BY: (SIGN) (INITIALS) Date Time	RECEIVED BY: (SIGN) (INITIALS) Date Time
1 Steve Rye SR 3-29-94 2400 2.	Ron Bargsley 3-29-94 12:12
RETURNED BY: (SIGN) (INITIALS) Date Time	DISPOSED BY: (SIGN) (INITIALS) Date Time
1. 2.	

NOTES TO LAB:

Chester Lab Houston
Lab ID # 1194-03-264
Iced Yes
pH
Temperature 2C°
Date 3/29/94
Initials

000107

(White - Original, Yellow - Set Data Package, Pink - FLTG, Orange - Sampler)

054212

INST ID: 5100

CHESTER DC # WS0408A01- 8
SAMPLE NUMBER: S14L001801

ORGANIC ANALYSIS DATA SHEET

LABORATORY NAME: CHESTER ENVIRONMENTAL
LAB SAMPLE ID NO.: 940326402
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: DATE SAMPLE RECEIVED: 4-8-94

VOLATILES

S1-23

DATE ANALYZED: 04/08/94 DATAFILE: WU03264A02

	COMPOUND	DETECTION LIMIT (MICROGRAMS / LITER)	AMOUNT FOUND
C010	CHLOROMETHANE	50 U	
C015	BROMOMETHANE	50 U	
C020	VINYL CHLORIDE	50 U	
C025	CHLOROETHANE	50 U	
C030	METHYLENE CHLORIDE	25 U	
C035	ACETONE	50 U	
C040	CARBON DISULFIDE	25 U	
C045	1,1-DICHLOROETHENE	25 U	
C050	1,1-DICHLOROETHANE	25 U	
C053	1-2,DICHLOROETHENE (TOTAL)	25 U	
C060	CHLOROFORM	25	23 J
C065	1,2-DICHLOROETHANE	25 U	
C110	2-BUTANONE	50 U	
C115	1,1,1-TRICHLOROETHANE	25 U	
C120	CARBON TETRACHLORIDE	25 U	
C125	VINYL ACETATE	50 U	
C130	BROMODICHLOROMETHANE	25 U	
C140	1,2-DICHLOROPROPANE	25 U	
C143	CIS-1,3-DICHLOROPROPENE	25 U	
C150	TRICHLOROETHENE	25 U	
C155	DIBROMOCHLOROMETHANE	25 U	
C160	1,1,2-TRICHLOROETHANE	25 U	
C165	BENZENE	25 U	
C172	TRANS-1,3-DICHLOROPROPENE	25 U	
C175	2-CHLOROETHYLVINYLETHER	50 U	
C180	BROMOFORM	25 U	
C205	4-METHYL-2-PENTANONE	50 U	
C210	2-HEXANONE	50 U	
C220	TETRACHLOROETHENE	25 U	
C225	1,1,2,2-TETRACHLOROETHANE	25 U	
C230	TOLUENE	25 U	
C235	CHLOROBENZENE	25 U	
C240	ETHYLBENZENE	25 U	
C245	STYRENE	25 U	
C250	XYLENES (TOTAL)	25 U	
C275	ACRYLONITRILE	50 U	

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

054213

INST ID: 5100

CHESTER DC # WS0408A01- 8
SAMPLE NUMBER: S14L001802

ORGANIC ANALYSIS DATA SHEET

LABORATORY NAME: CHESTER ENVIRONMENTAL
LAB SAMPLE ID NO.: 940326405
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: .....
DATE SAMPLE RECEIVED: 4-8-94

S1-38

VOLATILES

DATE ANALYZED: 04/08/94
DATAFILE: WU03264A05

	COMPOUND	DETECTION LIMIT (MICROGRAMS / LITER)	AMOUNT FOUND
C010	CHLOROMETHANE	50 U	
C015	BROMOMETHANE	50 U	
C020	VINYL CHLORIDE	50 U	
C025	CHLOROETHANE	50 U	
C030	METHYLENE CHLORIDE	25 U	
C035	ACETONE	50 U	
C040	CARBON DISULFIDE	25 U	
C045	1,1-DICHLOROETHENE	25 U	
C050	1,1-DICHLOROETHANE	25 U	
C053	1-2,DICHLOROETHENE (TOTAL)	25 U	
C060	CHLOROFORM	25	13 J
C065	1,2-DICHLOROETHANE	25 U	
C110	2-BUTANONE	50 U	
C115	1,1,1-TRICHLOROETHANE	25 U	
C120	CARBON TETRACHLORIDE	25 U	
C125	VINYL ACETATE	50 U	
C130	BROMODICHLOROMETHANE	25 U	
C140	1,2-DICHLOROPROPANE	25 U	
C143	CIS-1,3-DICHLOROPROPENE	25 U	
C150	TRICHLOROETHENE	25 U	
C155	DIBROMOCHLOROMETHANE	25 U	
C160	1,1,2-TRICHLOROETHANE	25 U	
C165	BENZENE	25 U	
C172	TRANS-1,3-DICHLOROPROPENE	25 U	
C175	2-CHLOROETHYLVINYLETHER	50 U	
C180	BROMOFORM	25 U	
C205	4-METHYL-2-PENTANONE	50 U	
C210	2-HEXANONE	50 U	
C220	TETRACHLOROETHENE	25 U	
C225	1,1,2,2-TETRACHLOROETHANE	25 U	
C230	TOLUENE	25 U	
C235	CHLOROBENZENE	25 U	
C240	ETHYLBENZENE	25 U	
C245	STYRENE	25 U	
C250	XYLENES (TOTAL)	25 U	
C275	ACRYLONITRILE	50 U	

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

054214

KEYSTONE DC # ------ 8

INST ID: 4000 SAMPLE NUMBER: S14L001803

ORGANICS ANALYSIS DATA SHEET

S1-42

LABORATORY NAME: CHESTER LABNET
LAB SAMPLE ID NO.: 940326406
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: DATE SAMPLE RECEIVED: 03/29/94

VOLATILES

CONCENTRATION: LOW DATAFILE: 4U03264V06H
DATE ANALYZED: 04/12/94 DILUTION FACTOR: 1.00

	COMPOUND	DETECTION LIMIT (MICROGRAMS / LITER)	AMOUNT FOUND
C010	CHLOROMETHANE	10 U	
C015	BROMOMETHANE	10 U	
C020	VINYL CHLORIDE	10 U	
C025	CHLOROETHANE	10 U	
C030	METHYLENE CHLORIDE	5 U	
C035	ACETONE	10 U	
C040	CARBON DISULFIDE	5 U	
C045	1,1-DICHLOROETHENE	5 U	
C050	1,1-DICHLOROETHANE	5 U	
C053	1,2-DICHLOROETHENE (TOTAL)	5 U	
C060	CHLOROFORM	5	26
C065	1,2-DICHLOROETHANE	5 U	
C110	2-BUTANONE	10 U	
C115	1,1,1-TRICHLOROETHANE	5 U	
C120	CARBON TETRACHLORIDE	5 U	
C125	VINYL ACETATE	10 U	
C130	BROMODICHLOROMETHANE	5 U	
C140	1,2-DICHLOROPROPANE	5 U	
C143	CIS-1,3-DICHLOROPROPENE	5 U	
C150	TRICHLOROETHENE	5 U	
C155	DIBROMOCHLOROMETHANE	5 U	
C160	1,1,2-TRICHLOROETHANE	5 U	
C165	BENZENE	5 U	
C172	TRANS-1,3-DICHLOROPROPENE	5 U	
C180	BROMOFORM	5 U	
C205	4-METHYL-2-PENTANONE	10 U	
C210	2-HEXANONE	10 U	
C220	TETRACHLOROETHENE	5 U	
C225	1,1,2,2-TETRACHLOROETHANE	5 U	
C230	TOLUENE	5 U	
C235	CHLOROBENZENE	5 U	
C240	ETHYLBENZENE	5 U	
C245	STYRENE	5 U	
C250	XYLENES (TOTAL)	5 U	

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

Time Printed: 8:59 am
Date Printed: 4/18/94
054215

FILE
26-4T14-1

User: KRM 000002
Page 1

Analysis Request and Chain of Custody Record No.: 1857

FRENCH LTD. PROJECT	REPORTING LABORATORY
rLTG, Incorporated 15010 FM 2100, Suite 200 Crosby, Texas 77532 (713) 328-5860 Fax: (713) 328-2996	Name: American Analytical Address: 11950 Industriplex Blvd. Baton Rouge, LA 70809 Contact: Randy Creighton Phone: (504) 753-8650 Fax: (504) 751-1405
DATA PACKAGE TO: FLTG, INCORPORATED 1024 GULF PUMP ROAD CROSBY, TX 77532	Requested By: Jim Thompson Standard TA?: Y Days: 14

FLTG MATRIX CODE: S14L
FLTG SET NUMBER: S14L0019
Quality Control Level: I
Site Location: 1024 Gulf Pump Road
Crosby, TX 77532

FLTG Sample No.	Date	Time	Location	Grab/ Comp	Matrix	Type
S14L001901	4/18/94	10:25	S1-033	Grab	Water	ENV1
S14L001902	4/18/94		S1-034	Grab	Water	ENV1
S14L001903	4/18/94		S1-036	Grab	Water	ENV1
S14L001904	4/18/94		S1-037	Grab	Water	ENV1

SAMPLER'S Name(s) (PRINT!)	Affiliation:
1. JESSE VELA 2. 3.	Sampling Team

Carrier: R. JANSEN	Bill No.:

RELINQUISHED BY: (SIGN) (INITIALS) Date Time	RECEIVED BY: (SIGN) (INITIALS) Date Time
1. [signature] 4-19-94 12:25 2	[signature] 4/18/94 12:25

RETURNED BY: (SIGN) (INITIALS) Date Time	DISPOSED BY: (SIGN) (INITIALS) Date Time
1. 2.	

NOTES TO LAB:
5136 - ONE OF 2 VIALS HAS SMALL AIR BUBBLES.

(White - Original Yellow - Set Data Package Pink - FLTG Green - Sample)

054216

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
000007
01901

Lab Name: AATSLA Contract:

Lab Code: AATSLA Case No.: S14L SAS No.: SDG No.: L0019

Matrix: (soil/water) WATER Lab Sample ID: 688401

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: A8746

Level: (low/med) LOW Date Received: 04/19/94

% Moisture: not dec. Date Analyzed: 04/25/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	11	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

054217

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000009

01902

Lab Name: AATSLA Contract:

Lab Code: AATSLA Case No.: S14L SAS No.: SDG No.: L0019

Matrix: (soil/water) WATER Lab Sample ID: 688402

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: A8747

Level: (low/med) LOW Date Received: 04/19/94

% Moisture: not dec. Date Analyzed: 04/25/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	65	
107-06-2	1,2-Dichloroethane	5	
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

054218

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

~~000011~~

01903

ab Name: AATSLA Contract: _____

Lab Code: AATSLA Case No.: S14L SAS No.: _____ SDG No.: L0019

Matrix: (soil/water) WATER Lab Sample ID: 688403

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: A8744

Level: (low/med) LOW Date Received: 04/19/94

% Moisture: not dec. ____ Date Analyzed: 04/25/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	8	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	
540-59-0	1,2-Dichloroethene (total)	3	J
67-66-3	Chloroform	52	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	12	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

054219

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
000013
01904

ab Name: AATSLA Contract: _____

Lab Code: AATSLA Case No.: S14L SAS No.: _____ SDG No.: L0019

Matrix: (soil/water) WATER Lab Sample ID: 688404

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: A8749

Level: (low/med) LOW Date Received: 04/19/94

% Moisture: not dec. ____ Date Analyzed: 04/25/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	3	J
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

Time Printed: 9:04 am
Date Printed: 4/25/94
054220

FILE
26-4-14-1

User: Ro 00000
Page 1
No.: 1866

Analysis Request and Chain of Custody Record

FRENCH LTD. PROJECT	REPORTING LABORATORY
FLTG, Incorporated 15010 FM 2100, Suite 200 Crosby, Texas 77532 (713) 328-5860 Fax: (713) 328-2996	Name: American Analytical Address: 11950 Industriplex Blvd. Baton Rouge, LA 70809 Contact: Randy Creighton Phone: (504) 753-8650 Fax: (504) 751-1405
DATA PACKAGE TO: FLTG, INCORPORATED 1024 GULF PUMP ROAD CROSBY, TX 77532	Requested By: Jim Thompson Standard TA?: Y Days: 14

FLTG MATRIX CODE: S14L
FLTG SET NUMBER: S14L0020
Quality Control Level: I
Site Location: 1024 Gulf Pump Road
Crosby, TX 77532

FLTG Sample No.	Date	Time	Location	Grab/ Comp	Matrix	Type
S14L002001	4/25/94	1115	S1-023	Grab	Water	ENV1
S14L002002	4/25/94	1125	S1-038	Grab	Water	ENV1
S14L002003	4/25/94	1130	S1-042	Grab	Water	ENV1

SAMPLER(S) Name(s) (PRINT!)	Affiliation:
1. S. Rye 2. 3.	Sampling Team

Carrier:	Bill No.:

RELINQUISHED BY: (SIGN) (INITIALS) Date Time	RECEIVED BY: (SIGN) (INITIALS) Date Time
1. 2. 4/26/94 1540	K A Rucker KAR 4-26-94 1540
RETURNED BY: (SIGN) (INITIALS) Date Time	**DISPOSED BY: (SIGN) (INITIALS) Date Time**
1. 2.	

NOTES TO LAB: K A Rucker 4-27-94 0944

Rec'd by Allan Stewart
4/27/94 14:15

White - Original Yellow - Set Data Package Pink

054221

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 000007

02001

Lab Name: AATSLA Contract:

Lab Code: AATSLA Case No.: GWSAM SAS No.: SDG No.: 02001

Matrix: (soil/water) WATER Lab Sample ID: 699701

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: A8874

Level: (low/med) LOW Date Received: 04/27/94

% Moisture: not dec. Date Analyzed: 04/29/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	10	
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	3	J
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

054222

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
000009
02002

ab Name: AATSLA Contract: _____

Lab Code: AATSLA Case No.: GWSAM SAS No.: _____ SDG No.: 02001

Matrix: (soil/water) WATER Lab Sample ID: 699702

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: A8875

Level: (low/med) LOW Date Received: 04/27/94

% Moisture: not dec. ____ Date Analyzed: 04/29/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	3	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

054223

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

~~000011~~

02003

ab Name: AATSLA Contract: _____

Lab Code: AATSLA Case No.: GWSAM SAS No.: _____ SDG No.: 02001

Matrix: (soil/water) WATER Lab Sample ID: 699703

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: A8876

Level: (low/med) LOW Date Received: 04/27/94

% Moisture: not dec. _____ Date Analyzed: 04/29/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	3	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

Time Printed: 8:18 am
Date Printed: 6/27/94
054224

Use: FILE
Page: 26-7-13
No: 000002

Analysis Request and Chain of Custody Record

PULSE PUMPING PROGRESS SAMPLES

TRENCH LTD. PROJECT	REPORTING LABORATORY
FLTG, Incorporated 15010 FM 2100, Suite 200 Crosby, Texas 77532 (713) 328-5860 Fax: (713) 328-2996	Name: American Analytical Address: 11950 Industriplex Blvd. Baton Rouge, LA 70809 Contact: Randy Creighton Phone: (504) 753-8650 Fax: (504) 751-1405
DATA PACKAGE TO: FLTG, INCORPORATED 1024 GULF PUMP ROAD CROSBY, TX 77532	Requested By: Jim Thompson Standard TA?: Y Days: 14

FLTG MATRIX CODE: S14L
FLTG SET NUMBER: S14L0022
Quality Control Level: I
Site Location: 1024 Gulf Pump Road
Crosby, TX 77532

FLTG Sample No.	Date	Time	Location	Grab/ Comp	Matrix	Type
S14L002201	6/27/94	1030	S1-034	Grab	Water	ENV1
S14L002202	6/27/94	1030	S1-036	Grab	Water	ENV1
S14L002203	6/27/94	1030	S1-037	Grab	Water	ENV1
14L002204	6/27/94	1200	S1-044 } "Baseline PP"	Grab	Water	ENV1
S14L002205	6/27/94	1030	S1-045	Grab	Water	ENV1

SAMPLER'S Name(s) (PRINT!)	Affiliation:
1. S. TOPHAM 6-27-94 2. 3.	Sampling Team
Carrier:	Bill No.:

RELINQUISHED BY: (SIGN) (INITIALS) Date Time	RECEIVED BY: (SIGN) (INITIALS) Date Time
1. [signature] 6-29-94 0800 2.	[signature] 6/29/94 8:00 am

RETURNED BY: (SIGN) (INITIALS) Date Time	DISPOSED BY: (SIGN) (INITIALS) Date Time
1. 2.	

NOTES TO LAB:

[signature] 6/29/94 13:22

(White - Original Yellow - Set Data Package Pink - FLTG ...)

054225

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
000007

02201
SI-34

b Name: AATSLA Contract: _____

Lab Code: AATSLA Case No.: GWMON SAS No.: _____ SDG No.: L0022

Matrix: (soil/water) WATER Lab Sample ID: 773501

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B0140

Level: (low/med) LOW Date Received: 06/29/94

% Moisture: not dec. ____ Date Analyzed: 06/30/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

MeCl prob lab contam.

054226

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
~~000009~~
02202
SI-36

b Name: AATSLA Contract: _____

Lab Code: AATSLA Case No.: GWMON SAS No.: _____ SDG No.: L0022

Matrix: (soil/water) WATER Lab Sample ID: 773502

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B0141

Level: (low/med) LOW Date Received: 06/29/94

% Moisture: not dec. ____ Date Analyzed: 06/30/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	9	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

MEETS CRITERIA

054227

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000011

02203

SI-37

b Name: AATSLA Contract: _____

Lab Code: AATSLA Case No.: GWMON SAS No.: _____ SDG No.: L0022

Matrix: (soil/water) WATER Lab Sample ID: 773503

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: B0142

Level: (low/med) LOW Date Received: 06/29/94

% Moisture: not dec. ____ Date Analyzed: 06/30/94

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	6	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

B2 (E) JUST OVER CRITERIA (5)

ATTACHMENT 4B

Permeability Testing Work Plan
INT-11 Cutoff Wall Area

PERMEABILITY CERTIFICATION TESTING WORK PLAN

Introduction

The INT-11 area cutoff wall is being installed to contain DNAPL and DNAPL-impacted groundwater in part of the INT unit. After construction is complete, hydraulic tests will be performed for each of the three sides of the wall (south, west, and east) to determine the effective permeability of the wall. For each test, one well near the center of each side will be either pumped or injected, and groundwater levels on both sides of the wall will be monitored. Tests will be performed in two phases:

1. pumping/injection phase
2. recovery phase

The purpose of the recovery phase is to support and confirm observations made during the pumping/injection phase.

Summary of Tests

The following table summarizes the three tests:

Test	Side	Type	Test Well
1	South	Injection	INT-202
2	West	Pumping	INT-11
3	East	Injection	INT-64

The attached map shows the wall location, test wells, and monitoring wells.

Baseline Conditions

Subtle variations in water level are anticipated: therefore, it is essential to establish steady (or at a minimum, predictable) baseline conditions. For this reason, all monitoring and injection wells that may influence the INT-11 area will be turned off at least seven days before the start of the tests and, apart from test wells, will remain off during the course of the tests. This includes S1 production and injection wells that could cause fluctuations in the S1 water table, which would be transmitted as pressure changes to groundwater in the INT unit. The following wells will be turned off:

Type of Well	Numbers
S1 Production	S1-20, -21, -22, -23, -24, -42
S1 Injection	S1-53, -54, -65
INT Production	INT-10, -11, -12, -13, -19, -31, -62
INT Injection	INT-63, -64, -71, -99, -201, -202, -203, -204

To confirm and determine baseline conditions, water levels at all wells being used in the tests will be monitored twice daily for seven days preceding the tests. The following 30 wells will be monitored (except when pumping or injecting):

Unit	Monitoring Well Numbers
S1	S1-11, -22, -23, -54, -65, -103, -120, -121, -122, -123
INT	INT-11, -19, -63, -64, -102, -106, -114, -120, -121, -122, -123, -124, -125, -126, -127, -128, -130, -143, -202, -203

Because loading in the test area, which could be caused by heavy vehicles and equipment, will cause pressure changes that could be transmitted to INT unit groundwater, heavy vehicles and equipment should be restricted from the vicinity of the wells being monitored to the extent possible.

Test Protocol

Perform the tests in the order given above. Confirm that all wells being monitored have a vent hole in the locking well cap to allow water-level equilibration. Measure water levels as accurately as possible and record to the nearest 0.01 foot. Use the same well sounder for all measurements. As some wells contain DNAPL, do not lower the sounder any more than is necessary to obtain a water level reading. Decon the probe by rinsing with DI water between wells. Record the time of the water-level measurement at each well.

Phase 1. Turn on the test well and operate as normal. Record the meter reading at the start, and twice daily thereafter. Measure water levels at all wells before the start, and at all wells except the test well hourly for 8 hours after the start, and then twice daily until the end of phase 1.

Phase 2. Turn off the test well. Record the final meter reading. Measure water levels at all 30 wells before the start, hourly for 8 hours after the start, and then twice daily until the end of phase 2.

The length of time for each phase will be 48 hours initially; this may be modified if water levels stabilize faster or slower. If water levels stabilize, the tests in the three areas will be run consecutively. In this case, the expected length of time for Tests 1 through 3 will be 6 days. After this time, all wells taken off line will be turned on again.

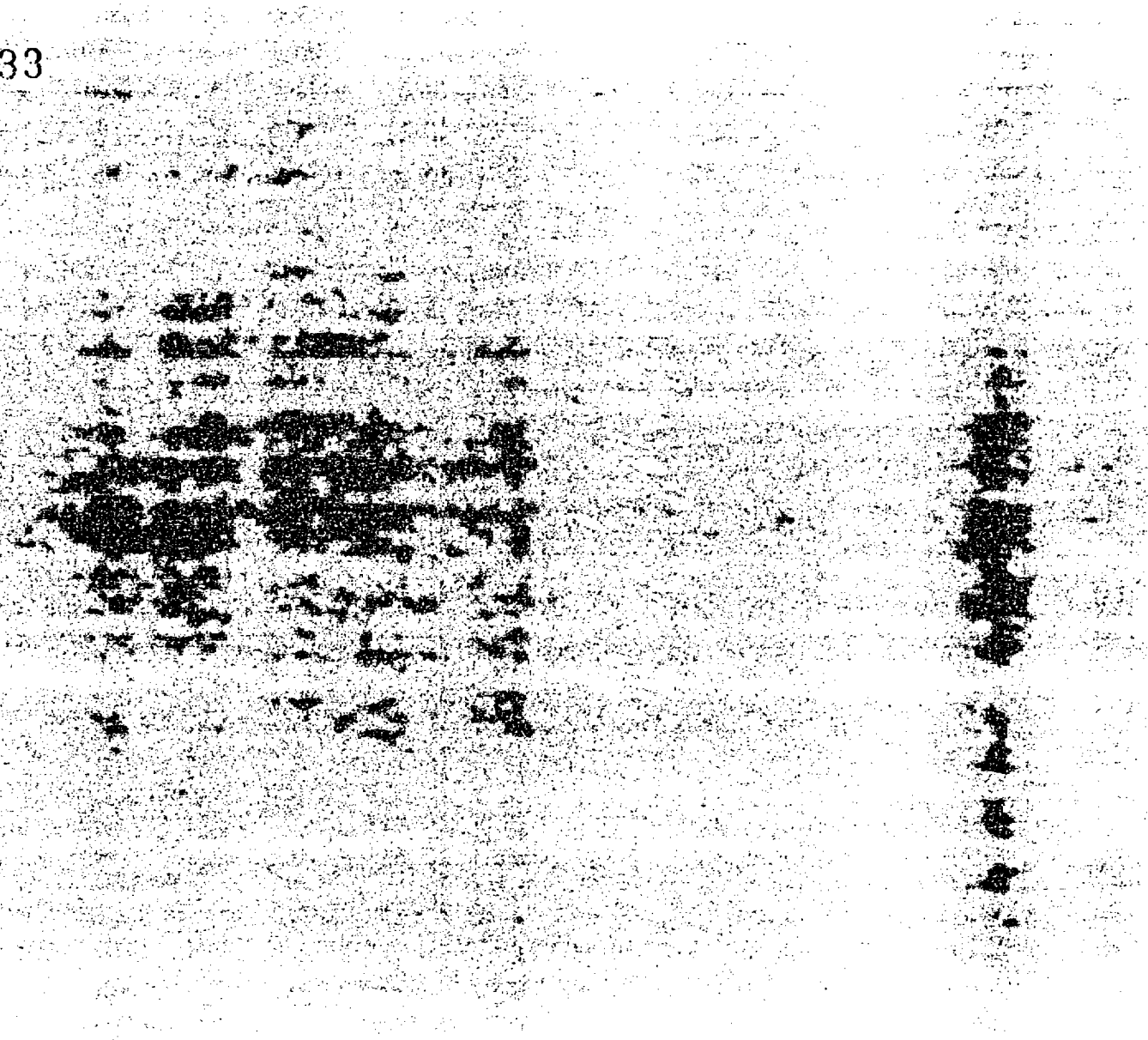
The number of wells to be monitored (initially 30) may be reduced if no response is seen during Test 1.

During the test, on-site barometric pressure and rainfall will be monitored and recorded. Changes in pressure and rainfall may cause water-level changes that may require tests to be re-run or may require certain data to be qualified.

Test Evaluation

Test results will be evaluated by first analyzing the results from wells on the same side of the cutoff wall as the test well, using AQTESOLV (Geraghty and Miller), or more sophisticated methods if required by the data. If necessary, corrections will be made for effects unrelated to the tests. Based on this evaluation, values of INT unit transmissivity and storativity for the test area will be estimated. These values will then be used to predict the expected response at the monitoring wells on the other side of the wall from the test well. The predicted and actual responses will be compared. If the predicted response or the difference in response is ≤0.01 foot, no further evaluation will be performed. If the predicted response or the difference in response is >0.01 foot, the response will be evaluated using FLOWCAD (Waterloo Hydrologic Software) to evaluate the wall permeability.

Results will be presented in a Certification Testing Report which will include all test results, aquifer characteristics, and wall permeability calculations.



C

ATTACHMENT 4C

Analytical reports - S1-63
DNAPL and Groundwater

054236

DNAPL sample from SI-63 Area

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 514B000202

Lab Name: AATSLA Contract: _____

Lab Code: _____ Case No.: TRH20 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WS Lab Sample ID: _____

Sample wt/vol: 4.54 (g/mL) ~~mL~~ g Lab File ID: _____

Level: (low/med) ~~low~~ MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: _____

Column: (pack/cap) cap Dilution Factor: 2.5 200

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	250000	U
74-83-9	Bromomethane	250000	U
75-01-4	Vinyl Chloride	250000	U
75-00-3	Chloroethane	250000	U
75-09-2	Methylene Chloride	~~125000~~	~~U~~
67-64-1	Acetone	250000	U
75-15-0	Carbon Disulfide	125000	U
75-35-4	1,1-Dichloroethene	125000	U
75-34-3	1,1-Dichloroethane	125000	U
540-59-0	1,2-Dichloroethene (total)	320000 ~~125000~~	~~U~~
67-66-3	Chloroform	460000 ~~125000~~	~~U~~
107-06-2	1,2-Dichloroethane	940000 ~~125000~~	~~U~~
78-93-3	2-Butanone	250000	U
71-55-6	1,1,1-Trichloroethane	125000	U
56-23-5	Carbon Tetrachloride	150000 ~~125000~~	~~U~~
108-05-4	Vinyl Acetate	250000	U
75-27-4	Bromodichloromethane	125000	U
78-87-5	1,2-Dichloropropane	125000	U
10061-01-5	cis-1,3-Dichloropropene	125000	U
79-01-6	Trichloroethene	200000 ~~125000~~	~~U~~
124-48-1	Dibromochloromethane	125000	U
79-00-5	1,1,2-Trichloroethane	125000	U
71-43-2	Benzene	96000 ~~125000~~	~~U~~ J
10061-02-6	trans-1,3-Dichloropropene	125000	U
75-25-2	Bromoform	125000	U
108-10-1	4-Methyl-2-Pentanone	250000	U
591-78-6	2-Hexanone	250000	U
127-18-4	Tetrachloroethene	125000	U
79-34-5	1,1,2,2-Tetrachloroethane	125000	U
108-88-3	Toluene	240000 ~~125000~~	~~U~~
108-90-7	Chlorobenzene	125000	U
100-41-4	Ethylbenzene	180000 ~~125000~~	~~U~~
100-42-5	Styrene	125000	U
1330-20-7	Xylene (total)	540000 ~~125000~~	~~U~~

054237

WATER SAMPLE FROM SI-63

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
SI4B000201

Lab Name: AATSLA Contract:

Lab Code: Case No.: TRH20 SAS No.: SDG No.:

Matrix: (soil/water) W Lab Sample ID: 8275.01

Sample wt/vol: 5 (g/mL) mL Lab File ID: M977.D

Level: (low/med) low Date Received: 081794

% Moisture: not dec. Date Analyzed: 082294

Column: (pack/cap) cap Dilution Factor: 2.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	25	U
74-83-9	Bromomethane	25	U
75-01-4	Vinyl Chloride	~~25~~ 23	J
75-00-3	Chloroethane	~~25~~ 20	J
75-09-2	Methylene Chloride	~~12~~ 95	
67-64-1	Acetone	~~25~~ 1500	E
75-15-0	Carbon Disulfide	~~12~~ 15	
75-35-4	1,1-Dichloroethene	~~12~~ 11	J
75-34-3	1,1-Dichloroethane	~~12~~ 100	
540-59-0	1,2-Dichloroethene (total)	~~12~~ 590	
67-66-3	Chloroform	~~12~~ 3700	E
107-06-2	1,2-Dichloroethane	~~12~~ 3700	E
78-93-3	2-Butanone	~~25~~ 130	
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	~~12~~ 130	
108-05-4	Vinyl Acetate	25	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	~~12~~ 60	
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	~~12~~ 280	
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	~~25~~ 58	
591-78-6	2-Hexanone	~~25~~ 33	
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	~~12~~ 62	
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	~~12~~ 47	
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	~~12~~ 71	

054238

WATER SAMPLE FROM S1-63

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S14B000201DL

Lab Name: AATSLA Contract:

Lab Code: Case No.: TRH20 SAS No.: SDG No.: 8278

Matrix: (soil/water) W Lab Sample ID: 8278.01

Sample wt/vol: 5 (g/mL) mL Lab File ID: MM4720 mg73

Level: (low/med) low Date Received:

% Moisture: not dec. Data Analyzed:

Column: (pack/cap) cap Dilution Factor: ~~2.5~~ 25

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	250	U
74-83-9	Bromomethane	250	U
75-01-4	Vinyl Chloride	250	U
75-00-3	Chloroethane	250	U
75-09-2	Methylene Chloride	~~120~~ 150	~~U~~ D
67-64-1	Acetone	~~250~~ 960	~~U~~ D
75-15-0	Carbon Disulfide	120	U
75-35-4	1,1-Dichloroethene	120	U
75-34-3	1,1-Dichloroethane	~~120~~ 130	~~U~~ D
540-59-0	1,2-Dichloroethene (total)	~~120~~ 300	~~U~~ D
67-66-3	Chloroform	~~120~~ 4700	~~U~~ D
107-06-2	1,2-Dichloroethane	~~120~~ 3800	~~U~~ D
78-93-3	2-Butanone	~~250~~ 150	~~U~~ JD
71-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	~~120~~ 240	~~U~~ D
108-05-4	Vinyl Acetate	250	U
75-27-4	Bromodichloromethane	120	U
78-87-5	1,2-Dichloropropane	120	U
10061-01-5	cis-1,3-Dichloropropene	120	U
79-01-6	Trichloroethene	~~120~~ 80	~~U~~ JD
124-48-1	Dibromochloromethane	120	U
79-00-5	1,1,2-Trichloroethane	120	U
71-43-2	Benzene	~~120~~ 340	~~U~~ D
10061-02-6	trans-1,3-Dichloropropene	120	U
75-25-2	Bromoform	120	U
108-10-1	4-Methyl-2-Pentanone	~~250~~ 95	~~U~~ JD
591-78-6	2-Hexanone	~~250~~ 170	~~U~~ JD
127-18-4	Tetrachloroethene	120	U
79-34-5	1,1,2,2-Tetrachloroethane	120	U
108-88-3	Toluene	~~120~~ 76	~~U~~ JD
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	120	U
100-42-5	Styrene	120	U
1330-20-7	Xylene (total)	120 ~~120~~ 190	U ~~U~~ D

5.0 GROUNDWATER TREATMENT PLANT

5.1 Summary of Activities

In response to the carbon filter product issue as reported in July, 1994, the answer from Calgon is in Attachment 5B in this section.

Also reported in July, 1994, was the transfer of July 26th in which again, the React Dry Screen C was tried. After backwashing was completed and full flow was resumed through the tower on July 29, 1994, the next composite for treated water revealed elevated copper and zinc. The carbon was analyzed for metals and the results were high as shown in Attachment 5C. Calgon's response to FLTG's inquiries is included in Attachment 5D.

Due to the discrepancies both in product and quality control, an RFP was issued to four bulk carbon suppliers for the remaining months of usage; virgin carbon was the product specified.

In August, sand filter #2 was taken out of service, cleaned, and new sand was installed. The cause of the septic sand condition in the plenum was traced to a check valve that had a piece of wire brush lodged in the seat. When flow would cease, as during a carbon transfer, sand and water would back down through the up-flow tubes. There is no washing action in the bottom plenum area therefore, sludge and sand had become septic.

As a preventive measure, two weeks later, F-1 was taken out of service, inspected, and new sand was installed.

Both filters are back in service in parallel, producing excellent effluent.

Except for the carbon driven value in copper, there have been no effluent issues for this reporting period.

FQ-101 meter was out of service for 2 days. This meter totalizes flow processed through the groundwater treatment plant.

Other than listed above, there were no major mechanical failures for this reporting period.

Total flows for August:

Water discharged to the San Jacinto River - 7,069,120 gallons

Water discharged to the Lagoon - 0

Sludge discharged to the Lagoon - 65,975 gallons

Water processed through the GWT - 6,290,900 gallons

Water discharged to the South Pond - 0

Water processed from Cell F to GWT by Rochem - 3,390,400 gallons (included in Attachment 5A)

Water blended passed Carbon Filter - 2,143,000 gallons

Water processed from Cell D to GWT plant - 52,500 gallons

5.2 Inoculum/Nutrient Addition

The following have been introduced into the bioreactors/clarifier:

Nutrients:

472 gallons Diammonium Phosphate

Microbes:

16 oz. French Limited Isolated Microbes

Coagulant:

2.8 gallons Percol 778 Cationic Polymer

5.3 Maintenance

Table 5-1 lists the preventive maintenance items performed in August.

5.4 Operating Data

Table 5-2 summarizes the laboratory analysis of the treated water discharged to the San Jacinto River.

TABLE 5-1

Preventive Maintenance

Day	Action
August 2	Completed electrical and ladder inspection
August 3	Replaced sand in F2 sand filter
August 11	Replaced filters in main filter
August 12	Rotated Sala pumps
August 13	Lubed all equipment in GWT plant
August 15	Replaced filters in main filter
August 21	Carbon transfer x1
August 26	Replaced sand in F1 sand filter
August 29	Lubed all equipment in GWT, all gates, all red valves, all equipment in chemical storage
August 30	Rotated Sala pumps

TABLE 5-2
Treated Water Results Summary

Collected	Set No.	pH (6-9)		TSS 5 PPM		TOC 55 PPM		O&G 15 PPM		Benzene 150 PPB		Chlor HC's 500 PPB		Total PCBs 0.65 PPB		Napthalene 300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
5-May-94	M03A0233	7.77		5.		55.		.5		2.5		518.		.16		5.	
9-May-94	M03A0234	7.69		6.		51.6		2.5		2.5		31.		.16		5.	
12-May-94	M03A0235	7.87		18.		49.1		2.5		2.5		800.		.16		5.	
16-May-94	M03A0236	7.61		4.		29.1		2.5		2.5		350.		.16		5.	
19-May-94	M03A0237	7.49		1.		44.3		2.5		2.5		421.		.16		5.	
23-May-94	M03A0238	7.58		2.		42.3		2.5		6.		497.		.16		5.	
27-May-94	M03A0239	7.3		4.		14.4		2.5		2.5		52.		.16		5.	
30-May-94	M03A0240	7.54		8.		30.9		2.5		2.5		290.		.16		5.	
2-Jun-94	M03A0241	7.72		1.		14.6		2.5		2.5		78.		.16		5.	
6-Jun-94	M03A0242	7.6	7.6	1.	5.	26.5	33.64	2.5	2.5	2.5	2.89	474.	333	.16	.16	5.	5.
9-Jun-94	M03A0243	7.48	7.58	1.	4.44	39.1	32.26	2.5	2.5	6.	3.28	520.	387	.16	.16	5.	5.
13-Jun-94	M03A0244	7.64	7.55	7.	3.22	40.1	31.26	2.5	2.5	6.	3.67	602.	365	.16	.16	5.	5.
16-Jun-94	M03A0245	7.54	7.54	6.	3.44	20.9	30.34	2.5	2.5	2.5	3.67	440.	375	.16	.16	5.	5.
20-Jun-94	M03A0246	7.44	7.54	1.	3.44	36.7	29.5	2.5	2.5	6.	4.06	287.	360	.16	.16	5.	5.
23-Jun-94	M03A0247	7.38	7.52	3.	3.56	37.9	29.01	2.5	2.5	6.	4.06	301.	338	.16	.16	5.	5.
27-Jun-94	M03A0248	7.36	7.52	5.	3.67	43.6	32.26	2.5	2.5	6.	4.44	401.	377	.16	.16	5.	5.
30-Jun-94	M03A0249	7.43	7.51	4.	3.22	29.	32.04	2.5	2.5	2.5	4.44	108.	357	.16	.16	5.	5.
4-Jul-94	M03A0250	7.79	7.52	9.	4.11	21.4	32.8	2.5	2.5	6.	4.83	201.	370	.16	.16	5.	5.
7-Jul-94	M03A0251	7.47	7.5	9.	5.	30.1	33.2	2.5	2.5	2.5	4.83	181.	338	.16	.16	5.	5.
11-Jul-94	M03A0252	7.44	7.5	1.	5.	26.8	31.83	2.5	2.5	2.5	4.44	236.	306	.16	.16	5.	5.
14-Jul-94	M03A0253	7.28	7.46	1.	4.33	43.3	32.19	2.5	2.5	6.	4.44	223.	264	.16	.16	5.	5.
18-Jul-94	M03A0254	7.24	7.43	3.	4.	31.9	33.41	2.5	2.5	6.	4.83	348.	254	.16	.16	5.	5.
21-Jul-94	M03A0255	7.27	7.41	1.	4.	43.6	34.18	2.5	2.5	6.	4.83	228.	247	.16	.16	5.	5.
25-Jul-94	M03A0256	7.27	7.39	7.	4.44	38.2	34.21	2.5	2.5	2.5	4.44	204.	237	.16	.16	5.	5.
28-Jul-94	M03A0257	7.31	7.39	4.	4.33	32.5	32.98	2.5	2.5	2.5	4.06	206.	215	.16	.16	5.	5.
1-Aug-94	M03A0258	7.36	7.38	8.	4.78	33.9	33.52	2.5	2.5	6.	4.44	313.	238	.16	.16	5.	5.
4-Aug-94	M03A0259	7.3	7.33	2.	4.	33.6	34.88	2.5	2.5	2.5	4.06	203.	238	.16	.16	5.	5.
8-Aug-94	M03A0260	7.25	7.3	3.	3.33	65.6	38.82	2.5	2.5	2.5	4.06	145.	234	.16	.16	5.	5.
11-Aug-94	M03A0261	7.16	7.27	2.	3.44	81.	44.84	2.5	2.5	2.5	4.06	292.	240	.16	.16	5.	5.
15-Aug-94	M03A0262	7.13	7.25	1.	3.44	76.3	48.51	2.5	2.5	6.	4.06	342.	253	.16	.16	5.	5.
18-Aug-94	M03A0263	7.25	7.26	1.	3.22	26.1	47.87	2.5	2.5	2.5	3.67	104.	226	.16	.16	5.	5.
22-Aug-94	M03A0264	7.33	7.26	1.	3.22	15.	44.69	2.5	2.5	2.5	3.28	242.	227.89	.16	.16	5.	5.
25-Aug-94	M03A0265	7.46	7.28	2.	2.67	34.7	44.3	2.5	2.5	2.5	3.28	102.	216.56	.16	.16	5.	5.
29-Aug-94	M03A0266	7.37	7.29	10.	3.33	23.5	43.3	2.5	2.5	2.5	3.28	56.	199.89	.16	.16	5.	5.
1-Sep-94	M03A0267			1.		23.7		2.5						.16			

Chlorinated hydrocarbons value is sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

TABLE 5-2 (Continued)
Treated Water Results Summary

Collected	Set No.	As 150 PPB		Ba 200 PPB		Cd 50 PPB		Cr 500 PPB		Cu 15 PPB		Pb 66 PPB		Mn 300 PPB		Hg 1 PPB		Ni 148 PPB		Se 20 PPB		Ag 5 PPB		Zn 162 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
5-May-94	M03A0233	32.1		69.2		.8		2.8		8.8		1.5		96.7		.1		4.5		2.		8.3		15.7	
9-May-94	M03A0234	14.		50.		1.3		2.5		5.		.8		33.		.1		5.		2.5		2.5		9.	
12-May-94	M03A0235	15.		33.		2.5		2.5		40.		1.		16.		.1		6.		5.		5.		15.	
16-May-94	M03A0236	14.6		43.5		.5		2.2		34.3		1.		26.5		.1		4.5		1.		7.		13.2	
19-May-94	M03A0237	16.		5.		2.5		2.5		30.		1.		24.		.1		6.		2.5		6.		31.	
23-May-94	M03A0238	17.		44.		.5		.5		6.		1.		13.		.1		2.5		1.		5.		7.	
26-May-94	M03A0239	15.		39.		.5		.5		6.		1.		9.		.1		6.		1.		4.		6.	
30-May-94	M03A0240	17.		37.		.4		1.		4.		1.		16.		.1		10.		1.		2.		3.	
2-Jun-94	M03A0241	20.		29.		.5		1.		15.		2.		18.		.1		2.5		1.		2.		18.	
6-Jun-94	M03A0242	11.	15.5	45.	36.2	.5	1.	8.	2.3	137.	30.8	1.	1.1	31.	20.7	.1	.1	6.	5.4	2.	1.9	10.	4.8	72.	19.4
9-Jun-94	M03A0243	15.	15.6	57.	36.9	.5	.9	2.	2.2	12.	31.6	2.	1.2	34.	20.8	.1	.1	12.	6.2	.3	1.6	3.	4.9	9.	19.4
13-Jun-94	M03A0244	11.	15.2	82.	42.4	.8	.7	13.	3.4	9.	28.1	1.	1.2	19.	21.2	.1	.1	12.	6.8	1.	1.2	3.8	4.8	14.	19.2
16-Jun-94	M03A0245	12.	14.9	94.	48.	1.	.8	1.	3.3	10.	25.4	1.	1.2	21.	20.6	.1	.1	12.	7.7	1.	1.2	3.	4.3	7.	18.6
20-Jun-94	M03A0246	9.7	14.2	116.	60.3	1.2	.7	.9	3.1	12.	23.4	1.	1.2	14.	19.4	.1	.1	10.	8.1	2.	1.1	2.8	4.	6.	15.8
23-Jun-94	M03A0247	14.	13.9	122.	69.	1.5	.8	.8	3.1	11.	24.	1.	1.2	21.	20.3	.1	.1	7.5	8.7	1.	1.1	2.5	3.7	11.	16.2
27-Jun-94	M03A0248	10.	13.3	121.	78.1	1.5	.9	9.	4.1	12.5	24.7	1.	1.2	18.	21.3	.1	.1	9.6	9.1	1.	1.1	3.6	3.6	16.	17.3
30-Jun-94	M03A0249	13.	12.9	108.	86.	1.5	1.	.3	4.	7.	25.1	1.	1.2	9.	20.6	.1	.1	8.	8.8	1.	1.1	3.	3.7	5.	17.6
4-Jul-94	M03A0250	16.	12.4	68.5	90.4	.2	1.	.3	3.9	3.5	23.8	.5	1.1	9.6	19.6	.1	.1	3.1	8.9	1.	1.1	2.6	3.8	12.	16.9
7-Jul-94	M03A0251	14.9	12.8	104.	96.9	.3	.9	.8	3.1	11.	9.8	1.	1.1	20.	18.4	.1	.1	5.	8.8	1.	1.	3.	3.	10.	10.
11-Jul-94	M03A0252	10.	12.3	110.	102.8	.5	.9	.5	3.	5.	9.	1.5	1.	10.	15.7	.1	.1	4.	7.9	1.5	1.2	3.	3.	10.	10.1
14-Jul-94	M03A0253	18.	13.1	105.	105.4	.3	.9	.3	1.5	6.	8.7	.8	1.	7.	14.4	.1	.1	4.5	7.1	.8	1.1	1.5	2.8	17.	10.4
18-Jul-94	M03A0254	10.	12.8	60.	101.6	.5	.8	.5	1.5	4.	8.	1.5	1.	10.	13.2	.1	.1	2.	6.	1.5	1.2	2.	2.7	10.	10.8
21-Jul-94	M03A0255	10.	12.9	100.	99.8	.5	.7	.5	1.4	6.	7.3	1.5	1.1	7.	12.4	.1	.1	7.	5.6	1.5	1.1	1.	2.5	10.	11.2
25-Jul-94	M03A0256	8.	12.2	110.	98.5	.3	.6	.3	1.4	3.	6.4	.8	1.1	6.	10.7	.1	.1	6.	5.5	2.	1.3	.5	2.2	6.	10.7
28-Jul-94	M03A0257	13.	12.5	64.	92.2	.3	.5	.6	.4	15.	6.7	.8	1.	29.	12.	.1	.1	6.	5.1	2.	1.4	.5	1.9	8.	9.8
1-Aug-94	M03A0258	8.	12.	100.	91.3	.3	.3	3.	.7	141.	21.6	4.	1.4	15.	12.6	.1	.1	5.	4.7	.8	1.3	.5	1.6	106.	21.
4-Aug-94	M03A0259	14.	11.8	104.	95.2	.3	.3	.3	.7	5.	21.8	.8	1.4	7.	12.3	.1	.1	11.	5.6	.8	1.3	.5	1.4	10.	20.8
8-Aug-94	M03A0260	11.	11.3	110.	95.9	.3	.3	1.5	.8	6.	21.2	.8	1.4	7.	10.9	.1	.1	15.	6.7	2.	1.4	.5	1.1	14.	21.2
11-Aug-94	M03A0261	14.	11.8	105.	95.3	.3	.3	1.	.9	3.	21.	.8	1.3	5.	10.3	.1	.1	10.	7.4	5.	1.8	.5	.8	12.	21.4
15-Aug-94	M03A0262	14.	11.3	94.	94.1	.3	.3	.3	.9	2.	20.6	.8	1.3	4.	10.	.1	.1	7.	7.7	.8	1.8	.5	.7	9.	20.6
18-Aug-94	M03A0263	14.	11.8	89.	97.3	.3	.3	1.	.9	5.	20.7	.8	1.2	3.	9.2	.1	.1	14.	9.	.8	1.7	.5	.6	12.	20.8
22-Aug-94	M03A0264	9.	11.7	70.	94.	.3	.3	.3	.9	10.5	21.2	.8	1.1	3.	8.8	.1	.1	2.	8.4	.8	1.6	.5	.5	5.	20.2
25-Aug-94	M03A0265	10.	11.9	88.	91.6	.3	.3	.3	.9	1.	20.9	.8	1.1	2.	8.3	.1	.1	3.	8.1	.8	1.5	.5	.5	3.	19.9
29-Aug-94	M03A0266	20.	12.7	80.	93.3	.3	.3	3.	1.2	5.	19.8	.8	1.1	.5	5.2	.1	.1	10.	8.6	1.5	1.4	.5	.5	12.	20.3

Metals values in PPB

A

ATTACHMENT 5A

Rochem Environmental, Inc. - Progress Report

054248

ROCHEM
ENVIRONMENTAL, INC.

610 N. Milby Street
Houston, Texas 77003

Phone: (713) 224-7626
Fax: (713) 224-7627

September 1, 1994

Mr. Mark Collins
French Limited Project
15010 F.M. 2100, Suite 200
Crosby, Texas 77532

Dear Mark:

We are submitting our report for the month August.

During the month, we treated 3,390,400 gallons of water. On contract we have 36,334,600 gallons to date.

Operations continue to produce excellent quality discharge.

Sincerely,

Kenneth A. Miller
President

/plz

B

ATTACHMENT 5B

Calgon Response Letter

054251

CALGON CARBON CORPORATION • P.O. BOX 717 • PITTSBURGH, PA 15230-0717 • (412) 787-6700

August 23, 1994

Mr. Mark Collins
French Limited
1024 Gulf Pump Road
Crosby, TX 77532

RE: Calgon Carbon Corporation's QIR No. G1394-055
Shipping the wrong product

Dear Mr. Collins:

The investigation in response to Quality Improvement Request No. G1394-055 concerning excessive fines in a July, 1994 shipment of react carbon is completed.

Our investigation shows that we shipped the wrong product to you. Instead of the requested Dry Screen React C, we shipped reactivated carbon fines which are used as a feedstock for one of our powdered reactivated products. The reactivated carbon fines feedstock is a relatively new product for us, and we initially had this material classified so that not only was Quality Assurance responsible for approving lots, but only QA personnel could release the material for shipment. When the material was reclassified, the wrong classification code was used, and the material was listed as Dry Screen React C in our system.

Corrective actions have been implemented to prevent a recurrence of this situation. We have added a secondary check to the reclassification procedure which identifies the purpose of the reclassification. The person approving the reclassification can then verify that the correct codes are being used.

Warehouse personnel should have noticed the difference between Dry Screen React C and react fines when the material was dumped to bulk. A letter will be sent by mid-September to our warehouse personnel informing them of this complaint and instructing them to be observant during the transfer of product. They will be instructed to notify supervisory personnel whenever they notice something unusual.

All Quality Assurance personnel involved with reclassifying material at the plant where the reclassification error occurred have been informed of this situation through a personal meeting with the Manager of Quality Assurance.

So that we do not repeat this mistake at another shipping location, a letter has been sent to our other manufacturing sites and warehouses to inform them of this complaint and the corrective actions that they should put in place. We have also researched the records to identify any other lots which may have been similarly mis-classified and shipped elsewhere or inventoried. No more lots were found.

We regret the inconvenience and difficulty this shipment has caused French Limited and we look forward to hearing from you any time corrective action is needed on our part to achieve continuous improvement in the quality of products and services we supply to French Limited.

Sincerely,

CALGON CARBON CORPORATION

Vicki B. Knapil /cmj

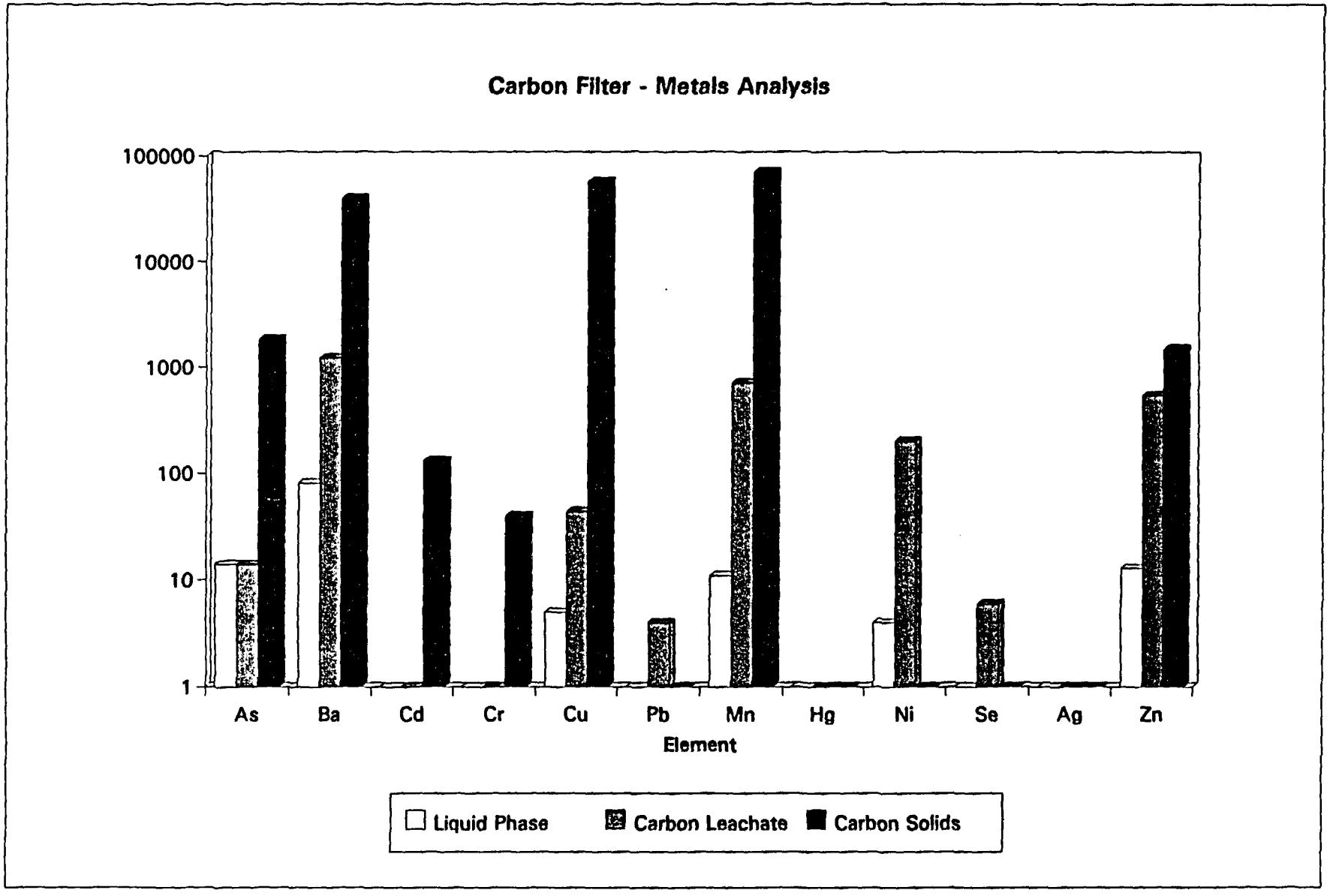
Vicki B. Knapil, P.E.
Manager, Customer Satisfaction

C

ATTACHMENT 5C

Carbon Filter - Metals Analysis

	As	Ba	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Se	Ag	Zn
Liquid Phase	14	82	ND	ND	5	ND	11	ND	4	ND	ND	13
Carbon Leachate	14	1230	ND	ND	44	4	719	ND	202	6	ND	549
Carbon Solids	1850	39900	133	40	57900	ND	71200	ND	ND	ND	ND	1530



ND = Not detected

All concentrations in PPB.

D

ATTACHMENT 5D

Calgon Response Letter

054258

CALGON

CALGON CARBON CORPORATION

CALGON CARBON CORPORATION BROOKHOLLOW CENTRAL III • SUITE 850 • 2950 NORTH LOOP WEST • HOUSTON, TX 77092

(713) 690-2000

August 9, 1994

Mr. Mark Collins
French Limited
15010 FM2100, Suite 200
Crosby, Texas 77532

Dear Mr. Collins:

This references our recent telephone conversation with regard to the copper leaching problem associated with the use of Calgon Carbon's Dry Screened React C product for the treatment of wastewater at your facilities in Crosby, Texas.

Confirming our conversations, Calgon Carbon's protocol does not call for the testing of copper in our Dry Screened React C product. However, typical copper values in our Dry Screened React C product far exceed the stringent 15 ppb discharge limit for copper in your effluent.

Since you have successfully used Calgon Carbon's virgin F-400 product in your wastewater treatment application for the last 2-3 years without any copper excursion problem, we recommend that you revert back to the use of virgin F-400 product. We do not anticipate any potential copper excursion with the use of the virgin F-400 product, since this product is always manufactured from the same coal seam.

As discussed, Calgon Carbon will be happy to provide virgin F-400 carbon at the contract price of $16,400.00 per truckload of carbon (20,000 pounds of carbon).

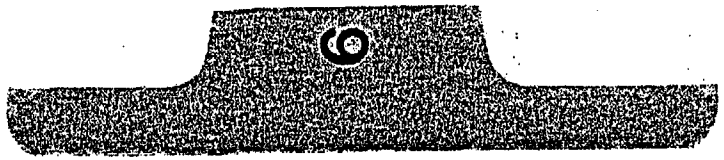
Mark, I hope the above information is helpful to you. If I can be of any further assistance, please do not hesitate to contact me.

Very truly yours,

Salil K. Sen
Sr. Technical Sales Representative

SKS/dj

9408L022



6.0 AMBIENT AIR MANAGEMENT

Ambient air quality management continued on an "as-needed" basis to protect the environment, human health, and site workers.

6.1 Summary of Activities

Collected and analyzed three time-integrated personnel exposure samples; the measured levels of volatile organic compounds were well below the action levels.

Sampled the ambient air in all work areas several times per shift and on a random "spot-check" basis; there were no levels of volatile organic compounds which required response action. Sampled ambient air in special work areas where burning and/or welding was planned.

6.2 Problems and Response Action

Problem	Response Action
Calibrate portable vapor meters.	Train operators to calibrate; refurbish all meters.
Sampling "hot" wells.	Require respirator use when sampling "hot" wells.
Ambient air quality in all work areas.	Check all work areas with portable meter several times per day.
Misleading vapor readings in abandoned pipe piles.	Use portable electric pump to draw samples; use extended probe to sample the entire volume.

6.3 Problems Resolved

None.

6.4 On-going Events/Activities

Measure ambient air quality in all work areas several times per day.

Conduct time-integrated sampling in all major work areas.

Require respiratory protection when sampling "hot" wells.

Conduct necessary air sampling and analyses to issue "burn" permits.

Closely monitor ambient air quality in the vicinity of new projects/activities.

Conduct respirator fit tests on all employees.

7

7.0 QUALITY ASSURANCE/QUALITY CONTROL

7.1 Summary of Activities

7.1.1 Sampling

One set of personal air monitoring samples were collected in August. The following is a summary of current routine and special air matrix code sample specifics:

MATRIX CODE	SAMPLE SPECIFICS
M01D	TF at three locations

TF = Tenax® front tube

Table 7-1 is a summary of the air, soil and water samples collected for the month of August. Table 7-2 is a summary of Scheduled Sampling Events for the month of August.

7.1.2 Data Validation Activities Summary

7.1.2.1 Treated Water Samples

Data validation has been completed for sample sets M03A0252, M03A0253, M03A0254, M03A0255, M03A0256, M03A0257, M03A0258, M03A0259, M03A0260 and M03A0261. These samples were collected between July 11, 1994 and August 11, 1994. QC failures are summarized in Table 7-3. Completeness values are summarized in Tables 7-4 through 7-8.

7.1.2.2 Groundwater Samples

Level I manual data validation was performed on all groundwater sample sets submitted this period. QC failures for the second quarter 1994 groundwater monitoring event are summarized in Table 7-9. Completeness values are summarized in Table 7-10.

7.1.2.3 Other Samples

All other special sample sets were validated manually this period.

7.2 Data Validation QC Summary and Discussion

7.2.1 Level I and Level II QC Philosophy

The Quality Assurance Project Plan (QAPP) defines data validity in terms of procedural requirements which must be followed for data comparability, and numerical data quality objectives which must be met to assure precision and accuracy of the results. Precision, accuracy and completeness are the numerical Data Quality Objectives (DQOs) established for the French Project by the QAPP. The intent of the data validation process is to verify that the documentation and quality control data provided by the laboratory properly substantiate the required data quality.

For purposes of data validation procedures, the QAPP defines two QC levels: Level I and Level II. Level I data validation is specified for process control and progress monitoring sample data validation and Level II data validation is specified for remediation verification sample results and treated water discharge sample results.

7.2.2 QA Issues

7.2.2.1 Treated water discharge samples - Metals investigation

Since April 1994, metals concentrations in treated water discharge samples have been inconsistent with historical values.. The analyte of most interest has been Copper. Concentrations of Copper have historically been below 10 PPB in the treated water discharge samples. The deviations from this trend have been traced to several issues, both at the laboratory and at the site.

The laboratory had an in-house contamination problem from the filtration media being used to remove particulate residue from the metals preparation digestate. The filter paper was leaching Copper into the sample digestate. The filter paper source was changed and the concentration of Copper was significantly reduced. A lower level of in-house laboratory contamination was the result of not consistently using a watch glass cover for the sample vessel during digestion. This practice allowed particulates to fall into the sample vessel during digestion and contaminate the sample. Corrective actions were implemented, and the concentration of Copper was reduced to a historically consistent level.

The groundwater treatment plant uses an activated carbon filter to "polish" the effluent before discharge to the San Jacinto river. The treated water discharge samples exhibited an increase in Copper and other metals concentrations following a carbon filter media change. The site had recently changed from using virgin carbon to reactivated carbon. The carbon media was analyzed as a solid and via the TCLP procedure to see what concentration of metals could be leached from it. The analysis results of this carbon filter media showed that the carbon media itself contained a significant level of Copper and

other metals. There were high concentrations of Copper in the June 6, 1994 and August 1, 1994 treated water discharge composite samples. These samples were taken within a few days of a carbon filter media change. The site has now returned to using virgin carbon for the groundwater treatment plant. There have been no significantly anomalous concentrations of Copper or other metals since the August 1, 1994 treated water discharge composite sample.

7.2.2.2 Responses to the Laboratory Audit on April 19, 1994

The laboratory submitted responses to the audit report issued on May 10, 1994. All issues requiring responses were addressed appropriately. The project quality assurance manager visited the laboratory on August 23, 1994 to confirm the implementation of corrective actions with regard to metals analysis and to discuss electronic data as well as other QA/QC issues. All audit recommendations and observations were discussed and all corrective actions were confirmed.

TABLE 7-1

Samples Collected - August, 1994

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M01D004501	Personal air monitoring	GWTP Oper.	8/10	8/12	Y	A
M01D004502	Personal air monitoring	Rochem Oper.	8/10	8/12	Y	A
M01D004503	Personal air monitoring	Well Oper.	8/10	8/12	Y	A
M03A025801	Treated water dischrge	CF Out	8/01	8/03	Y	A
M03A025901	Treated water dischrge	CF Out	8/04	8/05	Y	A
M03A026001	Treated water dischrge	CF Out	8/08	8/10	Y	A
M03A026101	Treated water dischrge	CF Out	8/11	8/12	Y	A
M03A026201	Treated water dischrge	CF Out	8/15	8/16	Y	A
M03A026301	Treated water dischrge	CF Out	8/18	8/19	N	A
M03A026401	Treated water dischrge	CF Out	8/22	8/24	N	A
M03A026501	Treated water dischrge	CF Out	8/25	8/26	N	A
M03A026601	Treated water dischrge	CF Out	8/29	8/30	N	A
M06C001801	Process water monitoring	T-101 Eff	8/02	8/03	Y	A
M06C001802	Process water monitoring	T-101 Inf-1	8/02	8/03	Y	A
M06C001803	Process water monitoring	T-101 Inf-2	8/02	8/03	Y	A
M06C001804	Process water monitoring	R1	8/02	8/03	Y	A
M06C001805	Process water monitoring	R2	8/02	8/03	Y	A
M06C001806	Process water monitoring	Rochem Prod.	8/02	8/03	Y	A
M08C000601	Riverdale wells-Fecal Coliform	RD-1	8/18	8/18	Y	N
M08C000602	Riverdale wells-Fecal Coliform	RD-2	8/18	8/18	Y	N

TABLE 7-1 (Continued)

Samples Collected - August, 1994

Sample No.	Description	Location	Date Samp'd	Lab Rec'd	Data Rec'd	Lab
M08D000801	Riverdale wells-Volatiles	RD-1	8/18	8/19	Y	A
M08D000802	Riverdale wells-Volatiles	RD-2	8/18	8/19	Y	A
S12B000701	Cell F liqour	Cell F Liq	8/04	8/05	N	A
S12C002501	Rochem reject liquid	Rochem Rejct	8/18	8/19	Y	A
S14B000201	S1-63 DNAPL detection	S1-063	8/15	8/16	N	A
S16A000601	Process water TOC investigation	CF Influent	8/15	8/16	Y	A
S16B002401	Discharge metals investigation	CF-OUT	8/01	8/02	Y	K
S16B002501	Discharge metals investigation	CF-OUT	8/04	8/05	Y	K
S16B002601	Discharge metals investigation	CF-OUT	8/08	8/09	Y	K
S16B002701	Discharge metals investigation	CF-OUT	8/11	8/12	Y	K
S16B002801	Discharge metals investigation	CF-OUT	8/15	8/16	Y	K
S16C000301	Carbon filter TCLP	Carbon Filt.	8/04	8/05	Y	A
S16C000401	Carbon filter TCLP	Carbon Filt.	8/22	8/23	Y	A
S16C000501	Carbon filter TCLP	Carbon Filt.	8/22	8/22	Y	K

TABLE 7-2

Scheduled Sampling Events

Date Sampled	Set Number	Description	Schedule
8/22/94	S16C0004	Carbon Filter TCLP	Special
8/22/94	S16C0005	Carbon Filter TCLP	Special
8/04/94	S12B0007	Cell F Liquor	Special
8/01/94	S16B0024	Discharge H2O metals	Special
8/04/94	S16B0025	Discharge H2O metals	Special
8/08/94	S16B0026	Discharge H2O metals	Special
8/11/94	S16B0027	Discharge H2O metals	Special
8/15/94	S16B0028	Discharge H2O metals	Special
8/10/94	M01D0045	Personal air monitoring	Monthly
8/02/94	M06C0018	Process water monitoring	Monthly
8/18/94	M08C0006	Riverdale wells-Fecal Col	Monthly
8/18/94	M08D0008	Riverdale wells-Volatiles	Monthly
8/18/94	S12C0025	Rochecm Reject Water	Special
8/01/94	M03A0258	Treated water discharge	Biweekly
8/04/94	M03A0259	Treated water discharge	Biweekly
8/08/94	M03A0260	Treated water discharge	Biweekly
8/11/94	M03A0261	Treated water discharge	Biweekly
8/15/94	M03A0262	Treated water discharge	Biweekly
8/18/94	M03A0263	Treated water discharge	Biweekly
8/22/94	M03A0264	Treated water discharge	Biweekly
8/25/94	M03A0265	Treated water discharge	Biweekly
8/29/94	M03A0266	Treated water discharge	Biweekly

TABLE 7-3

Treated Water
QC Failure Summary

Sample Date	Test	QC Failure	Explanation	Corrective Action
07-11-94	SV	HT Extract	Sample -01, MS & MSD were extracted within holding times, however all acid surrogate recoveries were outside QC limits. The re-extraction exceeded holding time, with one allowable surrogate outside QC limits.	Lab instructed to determine if QC failures warrant re-extraction, while leaving enough time to re-extract if necessary. No corrective actions required.
07-11-94	SV	SU Recov.	SU 2,4,6-Tribromophenol recovery was outside QC limits on sample -01(High)	None required.
07-14-94	Ba	ICP Ser. Dilution	ICP serial dilution indicated interference for Barium	None required - LCS, ICP interference check, duplicate and spike samples were within QC limits
07-18-94	SV	SU Recov.	SU Phenol-d5 recovery was outside QC limits on sample -01(High)	None required
07-21-94	PCB	SU Recov.	SU TCX recovery on column 1 was outside QC limits on sample -01(Low)	None required - Column 2 recovery was within QC limits.
07-21-94	PCB	SU Recov.	SU TCX and DCB recoveries on column 1 were outside QC limits on sample Blk. Spk. (High)	None required - Column 2 recoveries were within QC limits.
07-21-94	Ba	ICP Ser. Dilution	ICP serial dilution indicated interference for Barium	None required - LCS, ICP interference check, duplicate and spike samples were within QC limits
07-21-94	Se	Dup. Prec.	Duplicate precision on group leader was outside QC limits for Selenium.	None required - LCS, and spike sample recoveries were within QC limits.
07-25-94	SV	SU Recov.	SU 2,4,6-Tribromophenol recovery was outside QC limits on sample -01 (High)	None required.
07-28-94	SV	SU Recov.	SU 2,4,6-Tribromophenol recovery was outside QC limits on sample -01, MS & MSD (High)	None required - Matrix effect indicated
07-28-94	PCB	SU Recov.	SU TCX recovery on column 1 & 2 was outside QC limits on sample -01(Low)	None required - TCX surrogate recoveries were within QC limits on associated MS & MSD; SU DCB recoveries were within QC limits on -01, MS & MSD
07-28-94	Ba, Cr, Zn	MS Recov.	Matrix spike recoveries were outside QC limits for Barium, Chromium and Zinc.	None required - LCS and duplicate were within QC limits. Matrix effect indicated.
07-28-94	Mn	ICP Ser. Dilution	ICP serial dilution indicated interference for Manganese	None required - LCS, ICP interference check, duplicate and spike samples were within QC limits
08-01-94	PCB	SU Recov.	SU TCX recovery on column 2 was outside QC limits on sample MS(High)	None required - Column 1 recovery was within QC limits.

TABLE 7-3 (continued)

Treated Water
QC Failure Summary

Sample Date	Test	QC Failure	Explanation	Corrective Action
.08-01-94	Cu	MS Recov.	Matrix spike recoveries were outside QC limits for Copper	None required - LCS and duplicate were within QC limits. Matrix effect indicated.
08-01-94	Mn, Zn	ICP Ser. Dilution	ICP serial dilution indicated interference for Manganese & Zinc	None required - LCS, ICP interference check, duplicate and spike samples were within QC limits
08-01-94	SV	IS Response	Internal standard Chrysene-d12 response areas were low for sample - 01, MS & MSD	None required - IS response for method blank within QC limits. Matrix effect indicated
08-01-94	PCB	SU Recov.	SU TCX recovery on column 1 was outside QC limits on sample LCS (Low)	None required - Column 2 recovery was within QC limits.
08-04-94	SV	IS Response	Internal standard Chrysene-d12 response areas were low for sample - 01, MS & MSD	None required - IS response for method blank within QC limits. Matrix effect indicated
08-04-94	PCB	SU Recov.	SU TCX recovery on column 1 was outside QC limits on sample LCS (Low)	None required - Column 2 recovery was within QC limits.

7.2.3 Completeness Summaries

Tables 7-4 through 7-8 summarize completeness values for VOA, SVA, PCBs, Metals and miscellaneous parameters on treated water samples.

VOA (Table 7-5)

A total of 10 VOA sample sets have been validated with all categories meeting Project Completeness Goals.

SVA (Table 7-6)

A total of 10 SVA sample sets have been validated for this time period. All categories meet or exceed Project Completeness Goals.

PCBs (Table 7-7)

A total of 10 PCB sample sets have been validated for this time period with all samples, meeting data quality objectives. All categories meet or exceed Project Completeness Goals.

Metals (Table 7-8)

A total of 10 sample sets have been validated for this time period. Project Completeness Goals are met or exceeded in all categories with the exception of those listed in Table 7-7.

Miscellaneous Parameters (Table 7-9)

A total of 10 sample sets have been validated for this time period. Project completeness goals are met or exceeded in all categories.

TABLE 7-4

Completeness Summary
M03A Treated Water
Volatile Organics Analyses

SAMPLE DATE SET NUMBER	M03A0252 through M03A0261	Project to Date	PROJECT GOAL
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	100	93	90
SU1 (d4-1,2-DCE)	100	97	90
SU2 (d8-Toluene)	100	97	90
SU3 (4-BFB)	100	99	90
IS Check	100	100	90
IS1 (BrClMethane)	100	100	90
IS2 (1,4-DiFlBenzene)	100	100	90
IS3(d5-ClBenzene)	100	100	90
Sample RT/RRT Check	100	*	
Vinyl Chloride			
Accuracy	100	99	90
Precision	100	99	90
Benzene			
Accuracy	100	99	90
Precision	100	100	90
No Group Matrix Effect	100	*	90
No Sample Matrix Effect	100	*	90
Tune Check	100	*	
Overall ICAL Check	100	*	
Overall CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93. PTD completeness values do not apply to these checks.

TABLE 7-5

Completeness Summary
M03A Treated Water
Semivolatile Organic Analyses

SAMPLE DATE SET NUMBER	M03A0252 through M03A0261	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	**100**	**94**	**90**
SU1 (2-FlPhenol)	100	95	90
SU2 (d5-Phenol)	100	93	90
SU3 (d5-Nitrobenz)	100	97	90
SU4(2-FlBiphenyl)	70	98	90
SU5(2,4,6-TBPh)	100	93	90
SU6(d14-Terphen)	100	96	90
IS Check	**100**	**95**	**90**
IS1 (d4-1,4-DiClBenz)	100	100	90
IS2 (d8-Naph)	100	100	90
IS3 (d10-Acenaph)	100	100	90
IS4 (d10-Phenanth)	100	100	90
IS5 (d12-Chrysene)	100	97	90
IS6 (d12-Perylene)	100	95	90
Sample RT/RRT	100	*	*
Napthalene			
Accuracy	100	100	90
Precision	100	99	90
No Group Matrix Effect	100	100	90
No Sample Matrix Effect	100	92	90
Tune Check	100	*	*
Overall ICAL Check	100	*	*
Overall CCAL Check	100	*	*
Overall Lab Blank Check	100	*	*

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

TABLE 7-6

Completeness Summary
M03A Treated Water
PCB Analyses

SAMPLE DATE SET NUMBER	M03A0252 through M03A0261	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check - Column A	90	99	90
SU1 (DCBP)	90	82	NS
SU2 (TCMX)	100	96	NS
SU Check - Column B	90	97	90
SU1 (DCBP)	90	83	NS
SU2 (TCMX)	100	98	NS
SU Check - Column A or B	90	98	90
Aroclor 1242			
Accuracy	100	96	90
Precision	100	97	90
Overall ICAL Check	100	*	
Overall 1st CCAL Check	100	*	
Overall 2nd CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93. PTD completeness values do not apply to these checks.

TABLE 7-7

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0252 through M03A0261	PROJECT GOAL
ANALYTE: BARIUM		
MS Accuracy	90	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CADMIUM		
MS Accuracy	100	95
DUP Precision/Difference	W	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: CHROMIUM		
MS Accuracy	90	95
DUP Precision/Difference	W	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: COPPER		
MS Accuracy	90	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: LEAD		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-7 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0252 through M03A0261	PROJECT GOAL
ANALYTE: MANGANESE		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	NA	100
Lab Control Spike Check	100	100
ANALYTE: NICKEL		
MS Accuracy	100	95
DUP Precision/Difference	W	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SILVER		
MS Accuracy	100	95
DUP Precision/Difference	W	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: ZINC		
MS Accuracy	90	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	NA	100
Lab Control Spike Check	100	100
ANALYTE: MERCURY		
MS Accuracy	100	95
DUP Precision/Difference	W	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-7 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0252 through M03A0261	PROJECT GOAL
ANALYTE:ARSENIC		
MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100
ANALYTE: SELENIUM		
MS Accuracy	100	95
DUP Precision/Difference	90	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:
Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

TABLE 7-8

Completeness Summary
M03A Treated Water
Miscellaneous Parameters Analyses

SAMPLE DATE SET NUMBER	M03A0252 through M03A0261	Project to Date	PROJECT GOAL
PARAMETER: TOC			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: OILS			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: TSS			
Analysis Hold Time	100	100	100
MS Accuracy	NA	NA	NA
DUP Precision	100	100	NA

TABLE 7-9

Sample Failure Summary
1994 Second Quarter Groundwater Monitoring

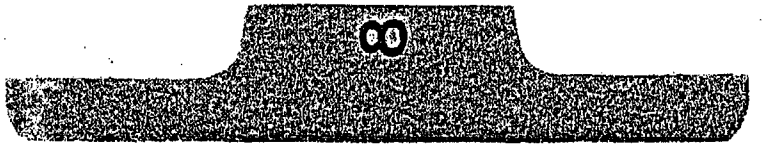
Sample Number	QC Level	QC Failure	Explanation	Corrective Action
Volatiles				
M04A001408	I	MS Recovery	Matrix spike duplicate recovery for benzene was outside QC limits.	None required - Matrix effect indicated..
M04A001408	I	MS Precision	Matrix spike relative percent difference was outside QC limits for 5 of the six spike compounds.	None required - Matrix effect indicated..
M04A001507	I	MS Recovery	Matrix spike duplicate recovery for benzene was outside QC limits.	None required - Matrix effect indicated..
M04A001507	I	MS Precision	Matrix spike relative percent difference was outside QC limits for benzene	None required - Matrix effect indicated..
OP-P				
M04A001408	I	MS Recovery	Matrix spike and matrix spike duplicate recoveries were outside QC limits	None required - RPD was within QC limits. Matrix effect indicated
M04A001507	I	MS Recovery	Matrix spike and matrix spike duplicate recoveries were outside QC limits	None required - RPD was within QC limits. Matrix effect indicated due to high iron content

*All sets QC Level I.

TABLE 7-10

1994 Second Quarter Groundwater Monitoring Event
Completeness Summary
Volatile Organics Analysis

QC TEST	NUMBER OF SAMPLES	% COMPLETE	PROJECT GOAL
IS1 (BrClMethane)	20	100	90
IS2 (1,4-DiFlBenzene)	20	100	90
IS3 (d5-C1Benzene)	20	100	90
IS TEST	**20**	**100**	**90**
SU1 (d4-1,2-DCE)	20	100	90
SU2 (d8-Toluene)	20	100	90
SU3 (4-BFB)	20	100	90
SU TEST	**20**	**100**	**90**
MS/MSD PRECISION AND ACCURACY			
Vinyl Chloride			
%REC	4	100	90
RPD	4	100	90
Benzene			
%REC	3	75	90
RPD	3	75	90
IS/SU CORR. ACTION			
Sample Complete	20	100	90
Group Leader Complete	20	100	90
No Group Matrix Effect	20	100	90


80

8.0 SITE MAINTENANCE

8.1 Summary of Activities

8.1.1 General Housekeeping

The site safety and housekeeping inspections and responses kept grounds safe and attractive for employees and visitors. The entire project was inspected twice per week, with written inspection reports issued and appropriate corrective action taken.

8.1.2 Purchasing

All purchases were covered by written requisitions and purchase orders. Purchase of chemicals is now reduced to groundwater treatment and insitu remediation.

RFP's were issued for: 1) Two new potable water wells, and 2) bulk carbon for the GWT plant.

8.1.3 Equipment Maintenance

Routine preventive and production maintenance was performed on all equipment. There were no emergency maintenance jobs.

Two new tires were mounted on the backhoe.

8.2 Visitors

The following visitors were recorded at the site during August:

August 2:	Gary Dlouhy, Sikes, IT Davy
	Derrick Rickel, Sikes, IT Davy
	Tony Trexel, Futura
	Michael Egan, ACC

W.J. Tusinski, ACC
R. Remick, ACC
J. P. Hopkin, ACC

August 3: Jon Greene, ENSR
Dave Ramsden, ENSR

August 12: Laura Walters, Century 21
Kay Walters, Century 21

August 16: Carl, Daphne Oppenheimer, OEC

August 17: C.R. Knowles, ARCO
Bob Trunek, ARCO

August 18: LaVeen Moody, Armco
Dan Szwbod, Armco
Myrl Rwean, Armco
Ed Bull, ARCO

August 19: Margaret O'Hare, CH2M Hill

August 20: J. Campbell, Piling, Inc.
S. Campbell, Piling, Inc.

August 22: Marvin Clubb, Clubb Equipment
Jesse Harris, Clubb Equipment
Bob Jordan, Clubb Equipment

August 23: David Tomasi, Anchor Marine

August 24: Bruce Stapp, Stapp Towing Co.

August 25: Dennis Herrin, Herris Motors
Dick Woods, RR

David Thomas, ARCO

August 26: John Hinricks, Hydro Services

August 30: M. Bludworth, BBSI
Earl Hendrick, EPA
G. Keyes, U.S. Congress

8.3 Emergency Equipment

8.3.1 Flood Gate Test

The exclusion wall gate was closed on August 22, 1994 with a good seal noted and recorded.

8.3.2 P-8 Auxiliary Pump

P-8 Auxiliary Pump was exercised and serviced August 23, 1994.

8.3.3 Fire Extinguishers

All fire extinguishers were inspected and certified.

8.4 Security

Smith Security provides 24-hour security at the FLTG site, including the south side of Gulf Pump Road; all site areas are checked hourly. Incidents reported by Security in August:

1. Falling trees across Gulf Pump Road.
2. Tractor trailer rig attempting to pass through barricade.
3. Warning lights stolen off barricades two times.

8.5 Operator Training

All training is documented and records are maintained on site. Eight-Hour OSHA Refresher

course will be conducted in September.

8.6 Data Management

Data base programming is fully operational. Data is entered on a daily basis.

8.7 Personnel Monitoring

Results of personnel monitoring conducted during August are included in Table 8-1. Results of H_2S survey of production wells are included in Table 8-2; the well vaults which contained H_2S were vented before work was done in the vicinity.

8.8 OVM System

The meteorological station was operational.

Work areas are being monitored daily with Organic Vapor Monitor 580A.

8.9 Repository

Records from the August review are listed in Attachment 8A.

TABLE 8-1

On-Site Employee Contaminant Limits
(From OSHA 29 CFR 1910 Subpart Z)

Compound	PEL 8 hour PPM	M01D0045 10-Aug-94 GWT Operator		M01D0045 10-Aug-94 Rochem Oper.		M01D0045 10-Aug-94 Well Operator	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.001	0.001	0.000	0.000	0.000	0.000
Bromomethane	5	0.000	0.000	0.000	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.000	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.001	0.000	0.013	0.006	0.000	0.000
Acetone	750	0.004	0.027	0.005	0.039	0.002	0.014
Carbon disulfide	10	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethene	5	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.001	0.001	0.000	0.000	0.000	0.000
trans-1,2-Dichloroethe	200	0.000	0.000	0.000	0.000	0.000	0.000
Chloroform	10	0.100	0.010	0.000	0.000	0.045	0.005
1,2-Dichloroethane	10	0.014	0.001	0.000	0.000	0.000	0.000
2-Butanone	200	0.001	0.001	0.026	0.052	0.000	0.000
1,1,1-Trichloroethane	350	0.000	0.000	0.001	0.003	0.000	0.001
Carbon Tetrachloride	5	0.008	0.000	0.005	0.000	0.000	0.000
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropen	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.001	0.001	0.000	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.000	0.000
Benzene	1	0.047	0.000	0.581	0.006	0.196	0.002
trans-1,3-Dichloroprop	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.001	0.000
2-Hexanone	5	0.000	0.000	0.000	0.000	0.000	0.000
Tetrachloroethene	50	0.002	0.001	0.001	0.001	0.001	0.000
1,1,2,2-Tetrachloroet	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.000	0.000	0.005	0.005	0.001	0.001
Chlorobenzene	10	0.000	0.000	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.001	0.001	0.000	0.000
Styrene	50	0.000	0.000	0.001	0.001	0.000	0.000
Xylene (total)	100	0.000	0.000	0.001	0.001	0.000	0.000
Hexane			0.003		0.007		0.003

TABLE 8-2

Task - Hydrogen Sulfide (H_2S) Survey
August 10, 1994

	Well Number	Drager Reading	Comments	Sample Time
Outside Wall :	INT-013	Non detect	None	13:00
	S1-020	Non detect	None	13:05
	S1-061	Non detect	None	13:10
	INT-014	Non detect	None	13:15
	S1-062	Non detect	None	13:20
	S1-019	Non detect	None	13:25
	INT-012	Non detect	None	13:32
Inside Wall :	S1-015	Non detect	Strong odor	13:38
	S1-014	Non detect	Strong odor	13:45
	S1-013	Non detect	Strong odor	13:51
	S1-012	Non detect	Strong odor	13:58
	S1-011	Non detect	Strong odor	14:04
	S1-010	Non detect	Strong odor	14:09
	S1-009	3.0 PPM	Strong odor	14:14
	S1-008	15+ PPM	Strong odor	14:19
	S1-007	0.5 PPM	Strong odor	14:25
	S1-006	Non detect	Strong odor	14:30

Samples collected using Drager tube 0.5 to 15.0 PPM. Samples collected from bottom of well vaults, next to well head.

ATTACHMENT 8A

Repository Status Report: August, 1994

REPOSITORY STATUS REPORT: August, 1994

At the Rice University Library...

1. Remedial Investigation Report April, 1985
2. Remedial Investigation Report Appendices, Volume II, April, 1985
3. Remedial Investigation Report June, 1986 (Updated from April, 1985)
4. Remedial Investigation Report Appendices, Volume I, February, 1986 (Revised June, 86)
5. Remedial Investigation Report Appendices, Volume II, February, 1986 (Revised June, 1986)
6. Remedial Investigation Report Appendices, Volume III, February, 1986
7. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume I, December, 1986
8. 1986 Field Investigation and Supplemental Remedial Investigation Report French Limited Site Volume II, Appendices December, 1986
9. 1986 Field Investigation Hydrology Report, December 19, 1986
10. Endangerment Assessment Report February, 1987
11. Endangerment Assessment Report April 1987 (Updated from February, 1987)
12. Feasibility Study Report, March 1987
13. In Situ Biodegradation Demonstration Report Volume I Executive Summary, October 30, 1987 Revised 11-11-87
14. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987
15. In Situ Biodegradation Demonstration Report Volume II, October 30, 1987 (Revised February 1, 1988 at Site only)
16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

17. In Situ Biodegradation Demonstration Report Volume III Appendices, October 30, 1987

18. In Situ Biodegradation Demonstration Report Volume III, Appendices, Supplemental Report, November 30, 1987

19. In Situ Biodegradation Demonstration Report French Limited Site, Volume IV October 30, 1987 + Appendices

20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site, Volume IV November 30, 1987 + Appendices

21. In Situ Biodegradation Demonstration Report French Limited Site Volume V, November 30, 1987

22. In Situ Biodegradation Demonstration Report French Limited Site Volume V Appendices, November 30, 1987 - Supplemental Report

23. In Situ Biodegradation Demonstration Report French Limited Site Volume VI Appendices, November 30, 1987

24. In Situ Biodegradation Demonstration Report French Limited Site Volume VII Appendices, November 30, 1987

25. In Situ Biodegradation Demonstration Report French Limited Site Volume VIII Appendices, November 30, 1987

26. In Situ Biodegradation Demonstration Report French Limited Site Volume IX Appendices, November 30, 1987

27. In Situ Biodegradation Demonstration Report French Limited Site Volume X Appendices, November 30, 1987

28. In Situ Biodegradation Demonstration Report French Limited Site Volume XI Appendices, November 30, 1987

29. In Situ Biodegradation Demonstration Report French Limited Site Volume XII Appendices, November 30, 1987

31. In Situ Biodegradation Demonstration Report French Limited Site Volume XIV Appendices, November 30, 1987

32. In Situ Biodegradation Demonstration Report French Limited Site Volume XV Appendices, November 30, 1987

33. In Situ Biodegradation Demonstration Report French Limited Site Volume XVI Appendices, November 30, 1987

34. In Situ Biodegradation Demonstration Report French Limited Site Volume XVII Appendices, November 30, 1987

35. In Situ Biodegradation Demonstration Report French Limited Site Volume XVIII Appendices, November 30, 1987

36. Proposed In Situ Biodegradation Demonstration French Limited Site Phase III, April, 1987

37. In Situ Bioremediation Demonstration French Limited April, 1987 Monthly Report, Equipment Evaluation Phase IV

38. In Situ Bioremediation Demonstration French Limited May, 1987 Monthly Report, Equipment Evaluation Phase IV

39. In Situ Bioremediation Demonstration French Limited June, 1987 Monthly Report, Equipment Evaluation Phase IV

40. In Situ Bioremediation Demonstration French Limited July, 1987 Monthly Report, Equipment Evaluation Phase IV

41. In Situ Bioremediation Demonstration French Limited August, 1987 Monthly Report, Equipment Evaluation Phase IV

42. In Situ Bioremediation Demonstration French Limited November, 1987 Monthly Report, Equipment Evaluation Phase IV

43. In Situ Bioremediation Demonstration French Limited December, 1987 Monthly Report, Equipment Evaluation Phase IV

44. In Situ Bioremediation Demonstration French Limited January, 1988 Monthly Report, Equipment Evaluation Phase IV

45. In Situ Bioremediation Demonstration French Limited February, 1988 Monthly Report, Equipment Evaluation Phase IV

46. In Situ Bioremediation Demonstration French Limited March, 1988 Monthly Report, Equipment Evaluation Phase IV

47. In Situ Bioremediation Demonstration French Limited April, 1988 Monthly Report, Equipment Evaluation Phase IV

48. In Situ Biodegradation Demonstration French Limited May/June 1988 Monthly Report, Equipment Evaluation Phase IV

49. In Situ Bioremediation Demonstration French Limited July, 1988 Monthly Report, Equipment Evaluation Phase IV

50. In Situ Bioremediation Demonstration French Limited August, 1988 Monthly Report, Equipment Evaluation Phase IV

51. In Situ Bioremediation Demonstration French Limited September, 1988 Monthly Report, Equipment Evaluation Phase IV

52. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988

53. In Situ Biodegradation Demonstration Phase III Quality Assurance Project Plan for French Limited Site, March, 1987

54. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990

55. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)

56. Remedial Action Plan Volume I - April, 1990

57. Remedial Action Plan Volume I - September, 1990 (Updated from April, 1990)

58. Remedial Action Plan Volume II Quality Assurance April, 1990

59. Remedial Action Plan Volume II Quality Assurance September, 1990 (Updated from April 1990) Revised June 3, 1991

60. Remedial Action Plan Volume II Quality Assurance June, 1990 Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 22, 1989 Revised September 28, 1990

61. Remedial Action Plan Volume III - Health and Safety, July 20, 1990

62. Remedial Action Plan Volume IV - Spill and Volatile Organic Release Contingency Plan (April 6, 1990)

63. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, May, 1990
    Page v.i.3 Missing

64. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990, (Updated from May, 1990)

65. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1,1990

66. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990

67. 1988 Slough Investigation Report French Limited Site, October 1988

68. Ambient Air Impact Risk Assessment Report, May 5, 1989

69. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
    Extra Page (Map) Between Pages 6 and 7
    Page 80 Missing

70. French Limited Site Hurricane Gilbert Preparation Report, October, 1988

71. Potable Water Well Installation Report French Limited Site, December 7, 1988

72. Bioresidue Fixation Alternatives Evaluation Report French Limited Site March 20, 1989

73. Hydrogeologic Characterization Report, March 1989

74. Hydrogeologic Characterization Report - Appendices, March 1989

75. San Jacinto River May 19, 1989 Flood Event Report, June 1989

76. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program - Volume I, August 16, 1989

77. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II Appendix A

78. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III Appendix A, August 16, 1989

79. Riverdale Lake Area Remediation Program August 15, 1989

80. Flood and Migration Control Wall Design Report, August 16, 1989

81. Flood and Migration Control Wall Design Report Appendix C Access Way Design, September, 1989

82. North Pit Remediation Report French Limited Site, November 6, 1989

83. Installation Report for Flood and Migration Control Wall, January 8, 1990

84. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs

85. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports

86. Installation Report for Flood and Migration Control Wall Appendix C - Pile Driving Inspection Report January 8, 1990

87. Flood Wall Gate Test Report French Limited Site, February 1990

88. French Limited Remediation Design Report - Executive Summary Bioremediation/Shallow Aquifer, July, 1991

89. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991

90. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991

91. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991

92. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations (March 20, 1991)

93. Bioremediation Facilities Design Report Volume III of IV
Appendix E - Design Specifications (March 20, 1991)

94. Bioremediation Facilities Design Report Volume IV of IV - Air Monitoring, March 20, 1991

95. Public Health Assessment for French Limited March 30, 1993 from U.S. Department of Health and Human Services

96. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E

97. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F

98. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3, Appendix F continued

99. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G

100. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H

101. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued

102. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (5-21-87)

103. Summary of Remedial Alternative Selection 1988

104. Declaration for the Record of Decision 1988

105. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (2-11-88) (Updated from June 21, 1987)

106. Consent Decree between the Federal Government and the FLTG

107. French Limited Superfund Site Community Relations
Revised Plan August, 1989 - Jacob's Engineering

108. Results of the French Limited Task Group Survey (Goldman and Company) April, 1987

109. Goldman Public Relations Clipping Report

110. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April, 1994

111. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I

112. Laboratory Evaluation of Biodegradation at the French Limited Site

113. French Limited Site Focused Feasibility Study (May 1987)

115. Monthly Progress Report, January 1992

116. Monthly Progress Report, January, 1992 Appendices A-C

117. Monthly Progress Report, January, 1992 Appendices E, F

118. Monthly Progress Report, January, 1992 Appendices G

119. Monthly Progress Report, February, 1992

120. Monthly Progress Report, February, 1992 Appendices A-B

121. Monthly Progress Report, February, 1992 Appendices C 1, C 2

122. Monthly Progress Report, February, 1992 Appendices D-E

123. Monthly Progress Report, March, 1992

124. Monthly Progress Report, March, 1992, Appendix A

125. Monthly Progress Report, April, 1992

126. Monthly Progress Report, April, 1992, Appendices A-B

127. Monthly Progress Report, May, 1992

128. Monthly Progress Report, May, 1992, Appendices A-B

129. Monthly Progress Report, June, 1992

130. Monthly Progress Report, June, 1992, Appendices A-B

131. Monthly Progress Report, July 1992

132. Monthly Progress Report, July 1992, Appendices A-B

133. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 1 of 3

134. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 2 of 3

135. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 3 of 3

136. Monthly Progress Report, August, 1992

137. Monthly Progress Report, August, 1992, Appendices A-B

138. Monthly Progress Report, September, 1992

139. Monthly Progress Report, September, 1992, Appendices A-B

140. Monthly Progress Report, October, 1992

141. Monthly Progress Report, October, 1992, Appendices A-B

142. Monthly Progress Report, November, 1992

143. Monthly Progress Report, November, 1992 Appendices A-B

144. Monthly Progress Report, December, 1992

145. Monthly Progress Report, December, 1992 Appendices A, B

146. Monthly Progress Report, January, 1993

147. Monthly Progress Report, February, 1993

148. Monthly Progress Report, March, 1993

149. Monthly Progress Report, April, 1993

150. Monthly Progress Report, May, 1993

151. Monthly Progress Report, June, 1993

152. Monthly Progress Report, July, 1993

153. Monthly Progress Report, August, 1993

154. Monthly Progress Report, September, 1993

155. Monthly Progress Report, October, 1993

156. Monthly Progress Report, November, 1993

157. Monthly Progress Report, December, 1993

158. Monthly Progress Report, January, 1994

159. Monthly Progress Report, February, 1994

160. Monthly Progress Report, March, 1994

161. Monthly Progress Report, April, 1994

162. Monthly Progress Report, May, 1994

163. Monthly Progress Report, June, 1994

164. Monthly Progress Report, July, 1994

The following volumes are missing:

30. In Situ Biodegradation Demonstration Report French Limited Site Volume XIII Appendices, November 30, 1987

114. Feasibility Study Report, March 1987, Executive Summary

At the Crosby library...

1. Remedial Investigation Report - June, 1986

2. Remedial Investigation Appendices Volume I June, 1986 Revised from Feb. 1986

3. Remedial Investigation Appendices Volume I I June, 1986 Revised from Feb. 1986

4. Remedial Investigation Appendices Volume III February, 1986
   Pages 1 and 2 of 10 Res. Engr Tab Missing
   Analytical Report Worksheet 7-8-9-10 Missing
   Pages 1 and 2 of 6 Missing
   Tab 9 H 1-8 Missing, H 11-19 Missing, Page 1 of 10 Missing
   Page 3 Worksheet Missing
   Tab 10 H 1-3 Missing, Page 3-6 of 6 Missing, Page 1-6 Missing
   Tab 12 Page 2-10 of 10 Missing

5. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume I, December, 1986

6. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume II, Appendices, December 1986

7. 1986 Field Investigation Hydrology Report, December 19, 1986

8. Feasibility Study Report, March 1987

9. Feasibility Study Report, March 1987

10. French Limited Site Focused Feasibility Study, May 1987

11. Endangerment Assessment Report February 1987

12. Endangerment Assessment Report April 1987

13. Endangerment Assessment Report April 1987

14. In Situ Biodegradation Demonstration Report Volume I Executive Summary October, 1987 (Revised 12-15-87)

15. In Situ Biodegradation Demonstration Report Volume II October 30, 1987

16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987
    Missing Supplements to 5-6 and 7 to 10

17. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

18. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume III, November 30, 1987 + Appendices

19. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume IV, November 30, 1987 -Appendices

20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume V - Appendices, November 30, 1987

21. Results of the French Limited Task Group Survey (Goldman and Company) April 1987

22. Goldman Public Relations Clipping Report

23. Consent Decree between the Federal Government and the FLTG

24. Consent Decree between the Federal Government and the FLTG

25. Laboratory Evaluation of Biodegradation at the French Limited Site, December 1986.

26. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I, March, 1987

27. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations March 20, 1991

28. Bioremediation Facilities Design Report Volume III of IV Appendix E - Design Specifications March 20, 1991

29. Bioremediation Facilities Design Report Volume IV of IV Air Monitoring, March 20, 1991

30. Remedial Action Plan Volume I, September 28, 1990

31. Remedial Action Plan Volume II - Quality Assurance, Revised June 3, 1991

32. Remedial Action Plan Volume II - Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 28, 1990

33. Remedial Action Plan Volume III - Health and Safety, July 20, 1990

34. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990

35. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990

36. Hydrogeologic Characterization Report, March 1989

37. Hydrogeologic Characterization Report Appendices, March 1989

38. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988

39. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1, 1990

40. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990

41. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)

42. San Jacinto River May 19, 1989 Flood Event Report, June 1989

43. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program Volume I, August 16, 1989

44. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II, Appendix A

45. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III, Appendix A, August 16, 1989

46. 1988 Slough Investigation Report French Limited Site, October 1988

47. Flood and Migration Control Wall Design Report, August 16, 1989

48. Flood and Migration Control Wall Design Report (Flood is spelled incorrectly on Volume Cover) + Appendix C - Access way Design September 1989

49. Installation Report for Flood and Migration Control Wall January 8, 1990

50. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs

51. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports

52. Installation Report for Flood and Migration Control Wall
Appendix C - Pile Driving Inspection Report January 8, 1990

53. Flood Wall Gate Test Report French Limited Site, February 1990

54. North Pit Remediation Report French Limited Site, November 6, 1989

55. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
(Additional Title - Pumping Test Program for Shallow Alluvial Aquifer Zone)

56. French Limited Site Hurricane Gilbert Preparation Report October, 1988

57. Riverdale Lake Area Remediation Program, August 15, 1989

58. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990

59. Potable Water Well Installation Report French Limited Site, December 7, 1988

60. Bioresidue Fixation Alternatives Evaluation Report French Limited Site
March 20, 1989

61. Ambient Air Impact Risk Assessment Report, May 5, 1989

62. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991

63. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991

64. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991

65. French Ltd. Remediation Design Report Executive Summary
Bioremediation Shallow Aquifer July 1991

66. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April 15, 1994

67. Black EPA Binder

68. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E

69. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F

70. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3 Appendix F continued

71. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G

72. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H

73. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued

74. Equipment Evaluation Phase !V Report November, I987 Monthly Report

75. Equipment Evaluation Phase !V Report December, I987 Monthly Report

76. Microfiche Field Reports 1988 -small box

77. Monthly Progress Report, January, 1992

78. Monthly Progress Report, January, I992, Appendices A-C

79. Monthly Progress Report, January, 1992, Appendices E-F

80. Monthly Progress Report, January, 1992, Appendix G

81. Monthly Progress Report, February, 1992

82. Monthly Progress Report, February, 1992, Appendices A-B

83. Monthly Progress Report, February, 1992, Appendices C-1

84. Monthly Progress Report, February, 1992, Appendices C-2

85. Monthly Progress Report, February, 1992 , Appendices D-E
86. Monthly Progress Report, March, 1992
87. Monthly Progress Report, March, 1992, Appendix A
88. Monthly Progress Report, April, 1992
89. Monthly Progress Report, April, 1992, Appendices A-B
90. Monthly Progress Report, May, 1992
91. Monthly Progress Report, May, 1992, Appendices A-B
92. Monthly Progress Report, June, 1992
93. Monthly Progress Report, June, 1992, Appendices A-B
94. Monthly Progress Report, July, 1992
95. Monthly Progress Report, July, 1992, Appendices A-B
96. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 1 of 3
97. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 2 of 3
98. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 3 of 3
99. Monthly Progress Report, August, 1992
100. Monthly Progress Report, August, 1992, Appendices A-B
101. Monthly Progress Report, September, 1992
102. Monthly Progress Report, September, 1992, Appendices A-B
103. Monthly Progress Report, October, 1992
104. Monthly Progress Report, October, 1992, Appendices A-B
105. Monthly Progress Report, November, 1992
106. Monthly Progress Report, November, 1992, Appendices A-B

107. Monthly Progress Report, December, 1992

108. Monthly Progress Report, December, 1992, Appendices A-B

109. Monthly Progress Report, January, 1993

110. Monthly Progress Report, February, 1993

111. Monthly Progress Report, March, 1993

112. Monthly Progress Report, April, 1993

113. Monthly Progress Report, May, 1993

114. Monthly Progress Report, June, 1993

115. Monthly Progress Report, July, 1993

116. Monthly Progress Report, August, 1993

117. Monthly Progress Report, September, 1993

118. Monthly Progress Report, October, 1993

119. Monthly Progress Report, November, 1993

120. Monthly Progress Report, December, 1993

121. Monthly Progress Report, January, 1994

122. Monthly Progress Report, February, 1994

123. Monthly Progress Report, March, 1994

124. Monthly Progress Report, April, 1994

125. Monthly Progress Report, May, 1994

126. Monthly Progress Report, June, 1994

127. Monthly Progress Report, July, 1994

The following volumes are missing:

128. Public Health Assessment Addendum - March 30, 1993
Missing Page 27 and 31

129. In Situ Biodegradation Demonstration French Limited Monthly Report for July, 1988

130. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (February 11, 1988) (Additional Title - Record of Public Meeting to Discuss and Accept Public Comments on the Proposed Remedy for French Limited Site)

131. In Situ Biodegradation Demonstration French Limited Monthly Report for January, 1988 or January Monthly Report Equipment Evaluation Phase IV.

12 Large Brown Folders:

1. Administrative Record Index - 2 folders
Administrative Record 09-26-79 thru 05-29-83
Administrative Record 06-03-83 thru 11-28-83
Administrative Record 02-28-84
Administrative Record 03-09-84
Technical Comments on Remediation Investigation Report 2-84
Supplemental Investigation - Resource Engr. 1-84
Administrative Record 3-9-84

2. Administrative Record 08-31-84
Administrative Record 10-29-84 thru 01-22-85
French Ltd. Technical and Regulatory Concepts for In-Place Closure, 09-84
Supplementary Investigation, May 1984
French Ltd. Field Activities Work Plan, February 1985
Supplementary Investigation Attachments, May 1985

3. Administrative Record 02-04-85
Remedial Investigation, Vol. I Report, April 1985
Remedial Investigation, Vol. II Appendices, April 1985

4. Administrative Record 04-08-85 thru 11-26-85
Administrative Record 02-14-86 thru 04-04-86
Technical Report for Resource Engineering, 12-03-85
Appendix QA Program for French Ltd., 12-18-85
1985 Field Investigation Report Appendices, January, 1986
1985 Field Investigation Report , January, 1986

5. Administrative Record 04-01-86

Remedial Investigation Report Appendices, Vol. II, April, 1986

6. Administrative Record 4-1-86

7. Administrative Record 05-08-86 thru 05-12-86
Administrative Record 06-01-86
Administrative Record 01-05-87
Remedial Investigation Report, June 1986
Laboratory Evaluation of Biodegradation, 12-86
1986 Field Investigation Hydrology Report, 12-86
Endangerment Assessment Report, 2-87

8. Feasibility Study, March 1987

9. Administrative Report 03-11-87 thru 03-25-87
Administrative Report 4-1-87
Administrative Report 4-7-87
In Situ Biodegradation Demonstration Phase III QA Project Plan 3-87
Endangerment Assessment Report, 4-87
Proposed In Situ Biodegradation Demonstration French Limited Site Phase III 4-87

10. Administrative Report 4-15-87 thru 5-I-87
Administrative Report 5-21-87 thru 7-2-87
French Limited Focused Feasibility Study, ERT 5-87
Revised Field Evaluation of Biodegradation at French Site Phase II Vol. I
-Revised 7-10-87

11. Administrative Report 7-20-87 - 11-23-87
Administrative Report Undated Documents 000122-000134
In Situ Biodegradation Demonstration Report Vol. I Executive Summary 10-87
French Limited Site Work Plan Vol. I Project Activities and Sample Plan

12. Texas Air Control Board Regulations I thru IX
Standard Exemption List
Application for Permit

During the month of August, the status of both libraries have been reviewed and the above information found to be accurate.

9.0 WETLANDS RESTORATION

9.1 Summary of Activities and Progress

Issued draft Brownwood design for agency review and comment.

Issued final Brownwood design, which responded to agency comments.

Continued to identify and quantify sources of the project vegetation.

Responded to public comments on the Corp. of Engineers 404 permit application.

Developed scope of work and Request For Proposal (RFP) for the project civil work.

Issued RFP and conducted a site visit and inspection for six interested contractors.

Executed access agreement with City of Baytown.

9.2 Problem Areas and Solutions

Problem	Recommended Solution
Land ownership status.	Survey site in detail to precisely define status. Baytown may purchase full ownership of critical lots.
Impact on archeological artifacts.	Relocate tidal connections to avoid shell middens.
Maintain adequate buffer zone.	Baytown will close perimeter roads to vehicle traffic.
Secure necessary permits.	Respond to public comments on Corp. of Engineers 404 permit.

9.3 Problems Resolved

Problem	Solution
Site access.	FLTG and Baytown executed access agreement.

9.4 Deliverables Submitted

Responses to Corp. of Engineers.

9.5 Upcoming Events and Activities

Baytown to acquire selected lots if available at reasonable terms.

Receive and evaluate bids for civil work.

Select civil contractor.

Identify and locate flora species.

Secure Corp. of Engineers 404 permit.

Develop detailed cost estimate for Brownwood.

Develop restoration schedule.

Develop forecast of maintenance requirements.

Develop community relations plan.